

Curriculum Vita for Louis Halle Rowen

January 2018

Born: 13 February, 1949, New York City

Married: Jan. 1974 to R. Welber (4 children)

Specialty: Algebra

Education

B.A. Summa Cum Laude, Columbia College (1969)

Ph.D., Yale University (1973)

Employment

Permanent: Bar-Ilan University, Ramat-Gan, Israel (1975–2017)

Full professor (since 1981)

Professor emeritus (since 2017)

Prior employment: L.E. Dickson Instructor, University of Chicago (1973-75)

U.S. Naval Oceanographic Office (1966-71 summers)

Long-Term Visiting Positions (for 2 months or more)

University of California at San Diego (July-Sept 2017)

University of Virginia (Charlottesville) (Fall Semester 2015)

Indiana University (Fall Semester 2000)

Yale University, (Academic Year 1989-1990)

Yale University, (Academic Year 1980-1981)

Institute for Advanced Study, Jerusalem, (Academic Year 1977-1978)

Intermediate-term Visiting positions (for 2 weeks or more)

Politecnico di Torino, Italy Dec. 2018

Ohio University (Athens, Ohio), Feb. 2016

CIRM (Luminey, France), research in pairs, Aug.-Sept. 2011

MFO, Oberwolfach research in pairs, July 2010

Indiana University (Bloomington), October 2009

MFO, Oberwolfach research in pairs, July 2009

University of Texas at Austin, Sept. 2005

UCL, Louvain-La-Neuve, Belgium Jan.-Feb. 2003

University of Texas at Austin, Feb. 2001
Math Sci. Research Inst (Berkeley) Jan.-Feb. 2000
Indiana University (Bloomington), June-July 1997
Indiana University (Bloomington), July-August 1995
Indiana University (Bloomington), July-August 1993
CRM, Institut d'Estudis Catalans, Barcelona, June-July 1992
Indiana University Institute for Advanced Studies, Bloomington, July 1991
UCL, Louvain-La-Neuve, Belgium, July, 1990
University of Texas at Austin March, 1990
MSRI, July, 1989
University of Paris, May, 1988
UCL, Louvain-La-Neuve, September, 1986
MSRI August, 1986
University of Texas at Austin, (Summers 1984, 1979, and 1978)
Columbia University, (Summer 1977)
Hebrew University (September-December. 1973)
Leeds University (June, 1973)

Other invited visits of a week or more (including invited lectures) include: ETH (Zurich), Hungarian Academy of Science, IAS (Princeton), IMPA (Brazil), MSRI, Ohio University (Athens), University of California (San Diego), University of Virginia (Charlottesville), University of Wisconsin (Madison), University of Washington (Seattle), University of California (Santa Barbara) Wayne State University (Detroit).

Awards and Honors

Fellow, Amer. Math. Soc. (2013)
Landau Prize (Interdisciplinary, 3 awarded in Israel, 1978)
Anshel Pfeffer Chair (Bar-Ilan University, 1976)
Woodrow Wilson Fellow
Salutatorian, Columbia College (1969)
Van Buren Mathematics Prize, Van Amringe Mathematics Prize, Columbia
Second prize nationwide, Westinghouse Science Talent Search (1965)

Grants. Research supported in part by the following institutions:

2016-2020 Israel Science Foundation (No. 1623/16)
2012-2016 Israel Science Foundation
2011-2015 US-Israel Binational Science Foundation
2009-2012 Israel Academy of Sciences (as cooperating investigator)
2006-2009 Israel Academy of Sciences
2005-2009 US-Israel Binational Science Foundation
1999-2006 Israel Academy of Sciences (PI, Center of Excellence)
1993-1995 US-Israel Binational Science Foundation

1989-1990 NSA (During Sabbatical at Yale)
1985-1988 US-Israel Binational Science Foundation
1984-1986 The Israel Academy of Sciences and Humanities (Basic Research Foundation)
1979-1982 US-Israel Binational Science Foundation
1976-1978 The Israel Academy of Sciences and Humanities (Basic Research Foundation)
1969-1975 National Science Foundation

Public Service in Mathematics

President, Israel Mathematics Union, January 2011- January 2013.
Member of award committee for Binational Science Foundation (2013).
Member of award committee for European Research Council (2012).
Member of selection committee for awarding Israel Prize in Mathematics (2008).
Member and Chair, Israel Math. Union selection committee for Erdos prize and for Levitzki Prize, various years.
Secretary, Israel Mathematical Union (1982-1984).

Administrative Positions at Bar-Ilan University

Member, Central Committee of University Senate, 2014-2016.
Chair, Mathematics and Computer Science Department, Bar-Ilan University, 2001-2002.
Member, Central Committee of University Senate, 1999-2001.
Rector's Advisor on Immigrant Scientists, 1998-2000.
Coordinator of graduate mathematics, Mathematics Department, Bar-Ilan Univ., 1988-1993, 1995-2005, 2006-2010.
Chair, Mathematics and Computer Science Department, Bar-Ilan University, 1991-1993.
Member, Executive Committee, Abe and Sara Gelbart Research Institute for Mathematics, 1987-2007.
Chair, Mathematics and Computer Science Department, Bar-Ilan Univ., 1983-1984.

Editorial activities for journals:

Member, editorial board, Journal of Algebra, 2011- present.
Member, editorial board, Israel Journal of Mathematics, 1993- present.
Member, editorial board, Israel Mathematical Conference Proceedings (IMCP), 1988-present. Managing editor of IMCP 1992-2017.
Member, editorial board, Journal of Algebra and Applications, 2003-present.
Member, editorial board, Mediterranean Journal of Mathematics, 2000-present.
Member, editorial board, Communications in Algebra, Jan. 1985- Dec. 1994.

Member of scientific organizing committee for the following international conferences and workshops (* indicates principal organizer):

Algebra (Jerusalem, Israel, March 2016)
 * Tropical Algebra (Ramat-Gan, Israel, Dec 2015)
 * American Mathematical Society -Israel Mathematical Union joint meeting
 (Ramat-Gan and Tel-Aviv, Israel, June 2014)
 Ring Theory (Bedlewo, Poland, July 2013)
 Shirshov conference (Novosibirsk, July 2011)
 Hopf algebras (“ConforMia”), (Sde Boker, May 2010)
 * Brauer Group, (Kibbutz Ketura, May 2010)
 Representation Theory (Ramat-Gan, 2008)
 Israeli Mathematics Union Annual Meeting, section in algebra (2008, 2005, 2000,
 1999)
 Ring Theory (satellite conference of European Mathematical Union), (Miskolc,
 Hungary, 1996)
 AMS-IMU joint conference (Jerusalem, 1996)
 * Ring Theory Conference in honor of SA Amitsur (Ramat-Gan, 1989)
 * Division algebra workshop in honor of SA Amitsur (Jerusalem, 1988)

Reviewer for Math Reviews.

Referee for the following periodicals (partial list):

Advances in Mathematics, Annals of Mathematics, Communications in Algebra,
 Israel J. of Mathematics, Journal of Algebra, Journal London Math. Soc., Pacif. J.
 Mathematics, Proc. Amer. Math. Soc., Trans. Amer. Math. Soc.

Doctoral Students (completed), in chronological order:

Sara Westreich (1990) Embeddings of rings into simple Artinian rings
 Shmuel Dahari (1992) Stability theory in connection with Gabriel dimension
 Dalit Baum (1996) Algebraic elements of simple Artinian rings
 Miraim Rosset (1998) Elements of Trace 0 and Commutators
 Uzi Vishne (2000) Topics in Central Simple Algebras
 Deborah Kaplan (2007) Extending Ring-theoretic Properties via Common Ideals
 Shai Sarussi (2009) Quasi-valuations
 Eli Matzri (2010) (joint supervision with U. Vishne) Finite Dimensional Division
 Algebras
 Sergei Malev (2014) Evaluations of polynomials on matrices
 Tal Perri (2014) Algebra structures in tropical mathematics
 Adi Niv (2015), Supertropical matrix algebra applied to tropical mathematics
 Erez Sheiner (2016) ELT algebras
 Ronen Harari (2016)

Current Doctoral Students:

Vered Moskowitz (joint supervision with U. Vishne), Orly Bashansky.

Masters Students (completed), in chronological order:

Shmuel Dahari, Sara Westreich, Dalit Baum, Uzi Vishne, Alex Fish (jointly with L. Makar-Limanov and M. Teicher), Nir Elyakim, Oshrit Ovrutzki, Shai Sarussi, Eli Matzri, Ronen Harari, Yaniv Bar-Lev, Adi Niv, Vered Moskowitz, Guy Balshar, Haim Rosner.

Invited Lectures in Conferences from 2008 (and title of lecture) in reverse chronological order:

March 2018, Special Session, AMS, Ohio State University, in honor of SK Jain
Representability of relatively free affine PI-algebras

November 2017, Special Session, AMS, UC Riverside, in honor of Lance Small
Hopfian and Bassian algebras

August 2017 St. Johns, Newfoundland, Combinatorics of Group Actions and its Applications

Representability of relatively free affine PI-algebras in arbitrary characteristic

July 2017, Spa, Belgium International conference June 18-24, 2017, Spa, Belgium, Groups, Rings and the Yang-Baxter equation

A general algebraic structure theory for tropical mathematics

July 2016, Algebra Colloquio XXI, Buenos Aires, Argentina (Two talks at special sessions)

Algebras with a negation map
Supertropical Hopf algebras

Jan 2016 AMS special session
Representable algebras

Dec 2016 Bar-Ilan University
Symmetrized algebras

May 2015, IMPA, Brazil
Tropical SL

Oct. 2014, Chillag memorial conference, Technion
Subspaces of division algebras

August 2014, Tropical mathematics, Eilat,
Tropical algebra

May 2014, Tropical mathematics, Yale University, New Haven CT,
Tropical algebra (two one-hour lectures)

May 2014, Special Session, AMS, Ohio State University, in honor of Jae Keol Park and Dinh Van Huynh
Tropical Algebra

July 2013 Bedlevo, Poland

Specht's problem for nonassociative algebras (one-hour lecture)

June 2013 Peking University, Beijing, China On occasion of the 50th Anniversary of the Journal of Algebra,
Tropical Algebra (one-hour lecture)

June 2013, Amitsur symposium, Tel-Aviv University, Israel
Polynomials evaluated on nonassociative algebras (one-hour lecture)

January 2013, Algebra (in honor of Jack Sonn), Technion, Israel:
The images of non-commutative polynomials evaluated on matrices (one-hour lecture)

October 2012, New trends in noncommutative algebra and geometry, Banff, CA:
Polynomial identities of algebras with involution (one-hour lecture)

October 2012, Special session in ring theory, AMS sectional meeting, Akron, Ohio:
Representability of Algebras

August 2012, Tropical 12: Tropical and idempotent mathematics, Moscow, Russia
Layered tropical Algebra (one-hour lecture)

July 2012, 22 Brazilian Algebra Meeting, Salvador, Brazil:
Specht's Conjecture for Affine Algebras (one-hour lecture)

July 2012, Minisymposium in discrete structures in algebra, topology, geometry, and computer science, 6th Quadrennial Meeting ECM, Krakow, Poland:
Tropical Algebra

June 2012, Amitsur Symposium, Tel Aviv, Israel:
Polynomial Evaluations of Algebras (one-hour lecture)

May 2012, Special session in Algebra, IMU Annual Conference, Ramat-Gan, Israel:
Representability of algebras

July 2011, Shirshov conference, Novosibirsk, Russia:
Tropical Algebra

July 2011, Algebra conference in honor of Pjek-Hwee Lee, Taipai, Taiwan
Tropical Algebra (one-hour lecture)

May 2011, Ramification in Algebra and Geometry, Emory Univ., Atlanta, Ga:
Tropical Algebra (one-hour lecture)

May 2010, Hopf algebras ("ConforMia"). Ben Gurion University (at Sde Boker), Israel:

The full quiver of a representation

Feb 2010, Tropical geometry workshop, Univ. of California at San Diego, USA:

Jan 2010, Brauer Groups workshop, Kibbutz Ketura, Israel:

Small's questions on division rings

Dec 2009, Tropical geometry workshop, MSRI, USA:

Supertropical semirings (one-hour lecture)

June 2008, Brauer Groups workshop, University of Colorado, USA:

Zariski closed algebras

June 2008, Algebra conference (in honor of SK Jain), University of Ohio, USA:

Supertropical algebras (one-hour lecture)

List of Publications

Louis Halle Rowen

Books - author

1. Polynomial Identities in Ring Theory, Academic Press (Pure and Applied Math. Series), 384 pp., March, 1980.
2. Ring Theory (2 volumes), Academic Press (Pure and Applied Math. Series 127 and 128), 1988. (Revised student edition 1991)
3. Algebra - Groups, Rings, and Fields, 239 pp. AK Peters, 1994.
4. (with A.Belov) Polynomial Identities- A combinatoric approach, 378 pages, AK Peters, 2005.
5. Graduate algebra: Commutative view. Graduate Studies in Mathematics, 73. American Mathematical Society, Providence, RI, 2006. xviii+438 pp. ISBN: 0-8218-0570-3
6. Graduate algebra: Noncommutative view. Graduate Studies in Mathematics, 91. American Mathematical Society, Providence, RI, 2008. xxi+648 pp.

Books - editor

- Ring Theory 1989 (in honor of S.A. Amitsur), IMCP Vol. 1, Weizmann Press, 1989.
- Proceedings of Miskolc Ring Theory Conference (In conjunction with the European Mathematical Union Meeting, 1996), appeared as special issue of the Journal of Pure and Applied Algebra
- (with A. Mann, A. Regev, D. Saltman and L. Small) Collected papers of S.A. Amitsur, Amer. Math. Soc. 2001.
- (with S. Montgomery and H.J. Schneider) Special issue of Comm. in Algebra in honor of Miriam Cohen, 2011.

Book Reviews

- Polynomial identity rings (book by V. Drensky and E. Formanek) Bull. Amer. Math. Soc. 43 (2006), 259-267.

Research articles (in refereed publications)

1. Some results on the center of a ring with polynomial identity, *Bull. Amer. Math. Soc.* 79 (1973), 219-223.
2. On classical quotients of polynomial identity rings with involution, *Proc. Amer. Math. Soc.* 40 (1973), 23-29.
3. Maximal quotients of semiprime PI-algebras, *Trans. Amer. Math. Soc.* 196 (1974), 127- 135.
4. A subdirect decomposition of semiprime rings and its application to maximal quotient rings, *Proc. Amer. Math. Soc.* 46 (1974), 176-180.
5. (with J. Fisher), An embedding of semiprime PI-rings, *Pacif. Journal of Math.* 52 (1974), 369-375.
6. Universal PI-algebras and algebras of generic matrices, *Israel J. Mathematics* 18 (1974), 65- 74.
7. On rings with central polynomials, *J. Algebra* 31 (1974), 393-426.
8. Standard polynomials in matrix algebras, *Trans. Amer. Math. Soc.* 196 (1974), 252-283.
9. Structure of rings with involution applied to generalized polynomial identities, *Canad. J. Math.* 27 (1975), 573-584.
10. Identities in algebras with involution, *Israel J. Math.* 20 (1975), 70-95.
11. Generalized polynomial identities, *J. Algebra* 34 (1975), 458-480.
12. Generalized polynomial identities II, *J. Algebra* 38 (1976), 380-392.
13. Monomial conditions on rings, *Israel J. Math.* 23 (1976) 19-30.
14. Generalized polynomial identities III, *J. Algebra* 47 (1977), 305-314.
15. Monomial conditions on prime rings, *Israel J. Math.* 27 (1977), 131-150. Correction *ibid.* 30 (1978), 192.
16. Classes of rings torsion free over the center. *Pacific Journal of Math.* 69 (1977), 527-534.
17. Nonassociative rings satisfying a normal polynomial identity, *J. Algebra* 49 (1977), 104- 111.

18. The theory of generalized polynomial identities, Proc. Ohio University Ring Theory Conference, Marcel Dekker (1977), 15-61.
19. Central simple algebras with involution, Bull. Amer. Math. Soc. 83 (1977), 1031-1032.
20. A short proof of the Chevalley-Jacobson Density Theorem, MAA Monthly 85 (1978), 185- 186.
21. Central simple algebras, Israel J. Math. 29 (1978), 285-301.
22. (with U. Schild) A scalar expression for matrices with symplectic involution, Mathematics of Computation 32 (1978), 607-613.
23. Polynomial identities of nonassociative rings, Ill. Journal Math. 22 (1978), 342-378.
24. Polynomial identities of nonassociative rings II, Ill. Journal Math. 22 (1978), 521-540.
25. Polynomial identities of nonassociative rings III, Ill. Journal Math. 23 (1979), 15-35.
26. (with S.A. Amitsur and J.P. Tignol) Division algebras of degree 4 and 8 with involution, Bull. Amer. Math. Soc. 1 (1979), 133-148.
27. (with S.A. Amitsur and J.P. Tignol) Division algebras of degree 4 and 8 with involution, Israel J. Math 33 (1979), 133-148.
28. Invariant subgroups of rings with involution, Comm. in Alg. 7 (1979), 2007-2025.
29. Central polynomials for special Jordan rings without nilpotent elements, and an analogue of Kaplansky's theorem, J. Algebra 63 (1980), 41-55.
30. Central simple algebras with involution viewed through centralizers, J. Algebra 63 (1980), 41-55.
31. Division algebra counterexamples of degree 8, Israel J. Math. 38 (1981), 51-57.
32. (with D. Saltman) Dihedral algebras are cyclic, Proc. Amer. Math. Soc. 84 (1982), 162- 164.
33. Cyclic division algebras, Israel J. Math. 41 (1982), 213-234. Correction *ibid.* 43 (1982), 277-280.

34. A simple proof of Kostant's Theorem, with an analog for the symplectic involution, *Contemporary Math.* 13 (1982), 207-215.
35. Division algebras of exponent 2 and characteristic 2, *J. Algebra* 9 (1983), 71-83.
36. (with M. Cohen) Group graded rings, *Comm. Alg.* 11 (1983), 1253-1270.
37. Brauer factor sets and simple algebras, *Trans. Amer. Math. Soc.* 282 (1984) 765-772.
38. Finitely presented modules over semiperfect rings, *Proc. Amer. Math. Soc.* 97(1986), pp.1-7.
39. Finitely presented modules over semiperfect rings satisfying $\text{ACC}-\infty$, *J. Algebra* 107 (1987), pp. 284-291.
40. (with L. Manevitz) Generic structures, *Freedom via forcing: Uniform construction of relatively free or generic structures*, Springer Lecture Notes in Math. 1987? Primitive ideals, Springer Lecture Notes in Math. 1404 (M.-P. Malliavin seminar) (1989), 322-345.
41. Examples of semiperfect rings, *Israel J. Math.* 65 (1989), 273-283. Koethe's conjecture, *Israel Mathematics Conference Proceedings vol. 1 (Amitsur Conference Volume)* (1989), pp. 193-202.
42. Modules over affine algebras having subexponential growth, *J. Algebra* 133 (1990), 527- 532.
43. Wedderburn's method and algebraic elements of simple Artinian rings, *Contemporary Mathematics* 124 (1991), 179-202.
44. (with D. Saltman) Prime to p extensions of division algebras, *Israel J. of Mathematics* 78 (1992), 197-207.
45. Polynomials over Division Rings, and their applications in RING THEORY (S.K. Jain, S. Tariq Rizi ed.), World Scientific (1993), 287-302.
46. (with S.A. Amitsur) Elements of reduced trace 0, *Israel J. of Mathematics* 87 (1994), 161-179.
47. (with D. Haile) Factorizations of Polynomials, *Algebra Colloquium* 2 (1995), 145-156.
48. Azumaya algebras with Involution, Polarizations, Linear Generalized Identities, *J. Algebra* 178 (1995), 430-443.

49. Left ideals of polynomial rings in several indeterminates, *Comm. in Algebra* 23 (6)(1995), 2263-2279.
50. Elements in division algebras of degree 3 and 4, *Contemporary Math.* 184 (1995), 405-410.
51. (with S.K. Jain and S. Lopez) Superfluous Covers, *Comm. in Algebra*, 23 (6)(1995), 1663-1677.
52. (with J.-P. Tignol) On the decomposition of cyclic division algebras, *Israel J. Math* 96 (1996), 553-578.
53. (with D. Saltman) Semidirect product division algebras, *Israel J. Math* 96 (1996), 527-552.
54. (with D. Saltman) Normalized Brauer factor sets, *J. Algebra* 198 (1997), 446-468.
55. (with Small L.) Primitive ideals of algebras, *Comm. in Algebra* 25 (12) (1997), 3853-3857.
56. (with F. Cedo) Examples of Semiperfect Rings II (addendum), *Israel J. Math.* 107 (1998), 343-348.
57. (with Y. Segev) The finite quotients of the multiplicative group of a division algebra of degree 3 are solvable, *Israel J. Math* (1999), 111 (1999), 373-380.
58. Are p -Algebras having cyclic quadratic extensions necessarily cyclic?, *J. Algebra* 215 (1999), 215-228.
59. (with A. Berele) T-ideals and superAzumaya algebras, *J. Algebra* 212 (1999), 703-720.
60. (with Y. Segev) The multiplicative group of a division algebra of degree 5, and Wedderburn's Theorem, *Contemporary Math.* (2000), 145-156. Division algebras over C_2 and C_3 -fields, *Proc. Amer. Math. Soc.* 130 (2001), 1607-1610.
61. (with D. Haile) Weakly Azumaya algebras, *J. Algebra* 250 (2002), 134-177.
62. (with I. Kantor) Ring-theoretic Properties of Algebras of Invariants, *J. Algebra* 266 (2003), 239-260.
63. (with M. Lorenz, Z. Reichstein, and D. Saltman) The field of definition of a division algebra, *J. London Math. Soc.* 68 no. 3 (2003), 651-679.

64. (with B. Kunyavski, V. Yanchevskii, and Tikhonov S), Division algebras over P_2 that ramify only on a quartic curve, Proc. Amer. Math. Soc. 134 (2006), 921-929.
65. (with B. Kunyavski, V. Yanchevskii, and Tikhonov S) Bicyclic algebras of prime exponent over function fields, Trans. Amer. Math. Soc. 358 (2006), 2579-2610.
66. (with A.S. Sivatski and J.-P. Tignol) Division algebras over rational function fields in one variable, Algebra and Number Theory, Hindustan Book Agency, Delhi (2005), 158-180.
67. (with Rapinchuk A. and Segev Y.) Nonabelian free subgroups in homomorphic images of valued quaternion division algebras, Proc. Amer. Math. Soc. 134 (2006), 3107-3114
68. (with Segev Y.) Normal subgroups generated by a single pure element in quaternion algebras. J. Algebra 305 (2006), no. 1, 130–145.
69. (with A. Belov and U. Vishne) Normal bases of PI-algebras. Adv. in Appl. Math. 37 (2006), no. 3, 378–389.
70. (with I. Kantor) The Peirce decomposition for generalized Jordan triple systems of finite order. J. Algebra 310 (2007), no. 2, 829–857.
71. (with Z. Izhakian) The tropical rank of a tropical matrix. Comm. Algebra 37 (2009), no. 11, 3912–3927.
72. (with Z. Izhakian) A guide to supertropical algebra, *Advances in Ring Theory*, Dinh van Huynh and Sergio R. López-Permouth (eds.), Trends in Mathematics, Birkhäuser, 283–302, 2010.
73. (with D. Saltman, Y. Segev, and U. Vishne) An Azumaya algebra version of the Kneser-Tits problem for groups of type ${}^{3,6}D_4$, Comm. in Algebra.
74. (with A. Belov and U. Vishne) Structure of Zariski-closed algebras. Trans. Amer. Math. Soc. 362 (2010), no. 9, 4695–4734.
75. (with Z. Izhakian) Supertropical algebra, Adv. in Math 225 (2010), 2222–2286.
76. (with Z. Izhakian) Supertropical matrix algebra, Israel J. Math. 182 (2011), 383–424.
77. (with Z. Izhakian) Supertropical polynomials and resultants, J. Algebra 324 (2010), no. 8, 1860–1886.

78. (with Z. Izhakian) Completions, reversals, and duality for tropical varieties, *J. Algebra Appl.* 10 (2011), no. 6, 1141–1163.
79. (with Izhakian, Z. and Knebusch, M.) A glimpse at supertropical valuation theory. *Analele Stiintifice ale Universitatii Ovidius Constanta, Ser. Mat.* 19 (2011), no. 2, 131–142.
80. (with Z. Izhakian) Supertropical matrix algebra II: Solving tropical equations, *Israel Journal of Mathematics*, 186(1):69–97, 2011.
81. (with Izhakian, Z. and Knebusch, M.) Supertropical semirings and supervaluations. *J. Pure Appl. Algebra* 215 (2011), no. 10, 2431–2463.
82. (with Z. Izhakian) Supertropical matrix algebra III: Powers of matrices and their supertropical eigenvalues, *Journal of Algebra*, 341(1):125–149, 2011.
83. (with A. Belov and U. Vishne) Application of full quivers of representations of algebras to polynomial identities. *Commun. Algebra* 39 (2011), no. 12, 4536–4551.
84. (with A. Belov and U. Vishne) Full quivers of representations of algebras, *Trans. Amer. Math. Soc.* (2013), 2681–2722.
85. (with E. Matzri and U. Vishne) Non-cyclic algebras with n -central elements. *Proc. Amer. Math. Soc.* 140 (2012), no. 2, 513–518.
86. (with A. Kanel-Belov and S. Malev) The images of non-commutative polynomials evaluated on 2×2 matrices. *Proc. Amer. Math. Soc.* 140 (2012), no. 2, 465–47.
87. (with A. Belov and U. Vishne) PI-varieties associated to full quivers of representations of algebras, *Trans. Amer. Math. Soc.* 365 (2013), no. 5, 2681–2722.
88. (with Belov-Kanel, A., L. Rowen, U. Vishne) Full exposition of Specht’s problem, *Serdica Mathematical Journal* Volume 38 (3), (2012), pp. 313–370.
89. (with Izhakian, Z. and Knebusch, M.) Dual spaces and bilinear forms in supertropical linear algebra. *Linear Multilinear Algebra* 60 no. 7 (2012), 865–883.
90. (with Izhakian, Z. and Knebusch, M.) Supertropical monoids: basics and canonical factorization. *J. Pure Appl. Algebra* 217 (2013), 2135–2162.
91. (with Belov-Kanel, A. and Vishne, U.) PI-varieties associated to full quivers of representations of algebras. *Trans. Amer. Math. Soc.* 365 (2013), no. 5, 2681–2722.

92. (with Izhakian, Z.) Ideals of polynomial semirings in tropical mathematics. *J. Algebra Appl.* 12 no. 2 (2013), 125–143.
93. (with Saltman, D.) Simultaneous embeddings of finite dimensional division algebras. *Proc. Amer. Math. Soc.* 141 (2013), no. 3, 737–744.
94. (with Saltman, D.) Tensor Products of Division Algebras and Fields, *J. Algebra* 394 (2013), 296–309.
95. (with Izhakian, Z. and Knebusch, M.). Categorical notions of layered tropical algebra and geometry, Algebraic and combinatorial aspects of tropical geometry, *Contemp. Math.*, 589, Amer. Math. Soc. (2013), 191–234.
96. (with Z. Izhakian and M. Knebusch) Supertropical linear algebra, *Pacific J. Math.* 266 (2013) no. 1, 43–75.
97. (with Z. Izhakian and M. Knebusch) Dominance and transmissions in supertropical valuation theory, *Comm. Algebra* 41 no. 7 (2013), 2736–2782.
98. (with Z. Izhakian and M. Knebusch) Layered tropical mathematics, *J. Algebra* 416 (2014), 200–273.
99. (with A. Belov, L. Bokut, and J.T. Yu) The Jacobian Conjecture, together with Specht and Burnside-type problems *Proc. Groups of Automorphisms in Birational and Affine Geometry*, editors M.Zaidenberg, M. Rich, and M. Reizakis, Springer (2014).
100. (with A. Belov-Kanel, A. Giambruno, and U. Vishne), Zariski closed algebras in varieties of universal algebra, *J. Algebra and Representation Theory* 17 (2014), no. 6, 1771–1783.
101. (with Izhakian, Z. and Knebusch, M.) Algebraic structures of tropical mathematics, in *Tropical and Idempotent Mathematics and Applications*, G.L. Litvinov and S.N.Sergeev, editors, *Cont. Math.* 616(28)(2014), 125–150.
102. Monoid valuations and value ordered supervaluations (with M. Knebusch), *Commun. in Algebra*, 43(8):3207–3248 (2015).
103. (with , A. Kanel-Belov and U. Vishne) Specht’s problem for associative affine algebras over commutative Noetherian rings, *Trans. Amer. Math. Soc.* 367 (2015), 5553–5596.
104. (with Izhakian, Z. and Knebusch, M.), Categories of layered semirings, *Commun. in Algebra* 43(5) (2015), 1807–1836.

105. (with L. Small) Representability of algebras finite over their centers, *J. Algebra* 442 (2015), 506-524.
106. (with Izhakian, Z. and Knebusch, M.) Supertropical quadratic forms I, *J. Pure Appl. Algebra* 220, no. 1 (2016), 61-93.
107. (with A. Kanel-Belov and S. Malev) The images of multilinear polynomials evaluated on 3×3 matrices, *Proc. Amer. Math. Soc.* 144 (2016), no. 1, 7-19.
108. (with B. Greenfeld and U. Vishne) Unions of Chains of Primes, *J. Pure Appl. Algebra* 220 (2016), no. 4, 1451-1461.
109. (with Z. Izhakian) Congruences and coordinate semirings of tropical varieties. *Bull. Sci. Math.* 140 no. 3(2016), 231-259.
110. (with A. Kanel-Belov and S. Malev) Power-central polynomials on matrices, arXiv:1310.1598, *J. Pure Appl. Algebra* 220 (2016), no. 6, 2164-2176.
111. (with A. Chapman, D.J. Gryniewicz, E. Matzri, and U. Vishne) Kummer Spaces in Cyclic Algebras of Prime Degree, *J. Pure Appl. Algebra* 220 (2016), no. 10, 3363-3371.
112. (with Z. Izhakian and M.Knebusch) Minimal orderings and quadratic forms on a free module over a supertropical semiring, *Linear Algebra Appl.* 507 (2016), 420-461.
113. (with A. Kanel-Belov and S. Malev) The images of Lie polynomials evaluated on 2×2 matrices over an algebraically closed field, *Comm. Algebra* 45 (2017), no. 11, 48014808.
114. (with Adi Niv) Dependence of Tropical Eigenspaces, *Comm. Algebra* 45 (2017), no. 3, 924-942.
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