

Curriculum Vitae: T. Y. Lam

Born: February 6, 1942.

Marital Status: Married, four children.

Degrees: B.A., University of Hong Kong, 1963.
Ph.D., Columbia University, 1967. (Thesis Supervisor: H. Bass.)

Academic Positions:

Research Fellow (Summer, 1967): University of Illinois.
Instructor (1967-68): University of Chicago.
Lecturer (1968-69): University of California, Berkeley.
Assistant Professor (1969-72): University of California, Berkeley.
Associate Professor (1972-76): University of California, Berkeley.
Professor (1976–present): University of California, Berkeley.
Deputy Director (1995-97): Math. Sci. Research Institute, Berkeley (MSRI).
Professor Emeritus, UC Berkeley (July, 2009–present).
Professor of the Graduate School, UC Berkeley (2009–present).

University Administrative Positions:

Vice Chairman, Department of Mathematics:
Apr. 1974–June 1975; July 1980–June 1981; July 1985–June 1987;
July, 1998–June 2002.
Head Major Advisor, Department of Mathematics: 1983–86; 1993–1997.
Hearing Officer, Office of Student Conduct (in the 1980s).
Department Liaison Person with the Office of Relations with Schools, 1986-87.
University Committee Services: Committee on Courses; Committee on
Quantitative Reasoning; Committee on Undergraduate Preparatory and
Remedial Education; Committee to Select Winners for the Noyce Prize.

Honors:

Alfred P. Sloan Foundation Fellow: 1972-74.
Miller Research Professor: University of California, 1978-79.
John Simon Guggenheim Foundation Fellow: 1981-82.
American Mathematical Society Leroy P. Steele Prize: 1982.
Fellow of the American Mathematical Society, 2012.

Editorial Experience:

Associate Editor, Communications in Algebra (in 1980s).
Associate Editor, Journal of Number Theory (until 2010).
Associate Editor, Journal of Algebra and Its Applications.
Associate Editor, Forum Geometricorum.

Associate Editor, Southeast Asian Bulletin of Mathematics.
Associate Editor, Encyclopedia of Mathematics, Cambridge University Press.
Co-Editor (with W. Jacob and R. O. Robson): Recent Advances in Real Algebraic
Geometry and Quadratic Forms. Contemp. Math., Vol. **155**, A.M.S., 1990–91.
Co-Editor (with A. Magid): Algebra, K-Theory, Groups, and Education.
Contemp. Math., Vol. **243**, Amer. Math. Soc., 1999.
Co-Editor (with H. Bass): Milnor’s Collected Works, Vol. 5, A.M.S., 2010.

Organizational Experience:

Member, Organizing Committee: Quadratic Form Conf., Corvallis, Oregon, 1986.
Organizer (with W. Jacob): Mini-Conference in Quadratic Forms and
Division Algebras, Berkeley, November, 1987.
Organizer (with R. O. Robson): “Ragsquad” Special Year in Real Algebraic
Geometry and Quadratic Forms, Berkeley, 1990-91.
Member, Organizing Committee: AMS Summer Research Institute, 1992.
Co-Chair, Congress of Chinese Mathematicians, Berkeley, 1997.

Service to Scholarly and Professional Organizations:

External Examiner, Chinese University of Hong Kong, 1988.
Treasurer, Pacific Journal of Mathematics.
Member, External Departmental Review Committee: Univ. of Notre Dame, 1990.
Member, External Departmental Review Committee: Wesleyan University.
Member, AMS Committee to Nominate Speakers for West Coast Meetings.
Chair, AMS Committee on Translation from the Chinese, 1982-present.
Member, AMS Committee on Committees, 1991-92.
Member, AMS Ad Hoc Committee to Study the Committee Structures, 1991-93.
External Examiner, University of Hong Kong, 1997-2001.
Member, AMS Committee on Human Rights, 1996-2004. (Chair: 2004)
Member, AMS Committee on Steel Prizes, 2003-2006. (Chair: 2005)
Member, AMS Fan Fund Committee, 2008-2010. (Chair: 2009)

Ph.D. Students (and their current positions):

Richard S. Elman (1972): Professor, UCLA.
Daniel B. Shapiro (1974): Professor, Ohio State University.
Lawrence Berman (1978): working in the computer industry.
Jonathan Harman (1980): working in the computer industry.
Jonathan Merzel (1980): Professor, Soka University.
Michel Spira (1987): Professor, Univ. Minas Gerais, Brazil.
Tara L. Smith (1988): Professor, University of Cincinnati.
Ka-Hin Leung (1988): Professor, University of Singapore.
Detlev W. Hoffmann (1992): Professor, Universität Dortmund, Germany.
Alan Hyungju Park (1995): President Emeritus, Ajou University, South Korea.
Monica J. Vazirani (1999): Professor, U. C. Davis.
Greg T. Marks (2000): Professor, St. Louis University.

Deborah G. Goldman (2000).
Will L. Murray (2001): Professor, Cal State University, Long Beach.
Scott Annin (2002): Professor, Cal State University, Fullerton.
Mark S. Davis (2003): Working for Oracle.
Gautam Borooah (2005): Financial Analyst, New York.
Pace P. Nielsen (2006): Professor, Brigham Young University.
Alex J. Diesl (2006): Professor, Wellesley College.
Alex S. Dugas (2006): Associate Professor, University of the Pacific.
Manuel L. Reyes (2010): Associate Professor, UC Irvine.

Associated Former Postdoctoral Scholars (and their current positions):

Bruce Reznick (NSF Postdoc): Professor, University of Illinois.
Bill Jacob (NSF Postdoc): Professor, U.C. Santa Barbara.
David Leep (NSF Postdoc): Professor, University of Kentucky.
Z. D. Dai (Exchange Scholar): Professor, Graduate Center, USTC, PRC.
A. S. Merkurjev (IREX Scholar): Professor, U.C.L.A.
Ken Valente (NSF Postdoc): Professor, Colgate University.
J. Mináč (UCB/MSRI Postdoc): Professor, Western University, Ontario, Canada.
Wei-Sheng Qiu (Exchange Scholar): Professor, Peking University.
André Leroy (Postdoc. Fellow): Professor, Université d'Artois, Lens, France.
Claus Scheiderer (Postdoc. Fellow): Professor, Universität Duisburg.
H. W. Schülting (Postdoc. Fellow): Working in the Computer Industry.
M. Krüskemper (Postdoc. Fellow): Dozent, Universität Münster.
L.G. Feng (Visiting Scholar): Professor, Xiamen Institute of Technology, P.R. China.
Zhou Wang (Visiting Scholar): Professor, Southeast University, P.R. China.
Jianlong Chen (Visiting Scholar): Professor, Southeast University, P.R. China.
Haiyan Zhu (Visiting Scholar): Professor, Zhejiang Univ. Tech, P.R. China.

Special Lecture Series:

J. Clarence Karcher Lectures: University of Oklahoma, March 1979.
Principal Lecturer: NSF Regional Conference, Carleton College, August 1981.
Principal Lecturer: Sixth Latin American School of Mathematics (ELAM VI),
Oaxtepec, Mexico, July 1982.
Pasquale Porcelli Lectures: Louisiana State University, October 1982.
Second Chinese Summer Institute: Nankai University, PRC, August, 1985.
Kenna Lectures: University of Notre Dame, March 1987.
Lonseth Lecture: Oregon State University, May 1994.
Trjitzinsky Lectures: University of Illinois, Urbana-Champaign, April, 1998.
Mini-Course on stable range, cancellation, substitution, and exchange:
Ring Theory Center, Ohio University, May, 2003.
Y. C. Wong Lectures: University of Hong Kong, April–May, 2008.
Special Lectures: King Abdulaziz University, Jeddah, S.A., 2011.
Mini-Courses: Southeast University, Nanjing, P.R. China, 2012, 2013, 2016.
Surender K. Jain Lecture Series: Ohio University, Athens, Ohio, May, 2022.
UCB-UCSB Algebra Day Lecture: UC Santa Barbara, June 22-23, 2023.

References

- [1] *The category of noetherian modules.* Proc. Nat. Acad. Sci. **55** (1966), 1038-1040.
- [2] *Artin exponent of finite groups.* J. Algebra **9** (1968), 94-119.
- [3] *Induction theorems for Grothendieck groups and Whitehead groups of finite groups.* Ann. l'École Norm. Sup. t.1, 4e série (1968), 91-148.
- [4] *A theorem on Green's modular representation ring.* J. Algebra **9** (1968), 388-392.
- [5] (with I. Reiner) *Relative Grothendieck groups.* J. Algebra **11** (1969), 213-242.
- [6] (with M. Jodeit) *Multiplicative maps of matrix semigroups.* Archiv der Math. **20** (1969), 10-16.
- [7] (with I. Reiner) *Relative Grothendieck rings.* Bull. Amer. Math. Soc. **75** (1969), 496-498.
- [8] *A commutator formula for a pair of subgroups and a theorem of Blackburn.* Bull. Canad. Math. Soc. **12** (1969), 217-219.
- [9] (with I. Reiner) *Relative Grothendieck rings.* In "Theory of Groups" (ed. R. Brauer and C.-H. Sah), pp. 163-170, Benjamin, New York/Amsterdam, 1969.
- [10] (with I. Reiner) *Reduction theorems for relative Grothendieck rings.* Trans. Amer. Math. Soc. **142** (1969), 421-435.
- [11] (with I. Reiner) *Finite generation of Grothendieck rings relative to cyclic subgroups.* Proc. Amer. Math. Soc. **23** (1969), 481-489.
- [12] (with I. Reiner) *Restriction maps on Grothendieck rings.* J. Algebra **14** (1970), 260-298.
- [13] (with I. Reiner) *An excision theorem for Grothendieck rings.* Math. Zeit. **115** (1970), 153-164.
- [14] (with I. Reiner and D. Wigner) *Restriction of representations over fields of characteristic p .* In "Representation Theory of Finite Groups and Related Topics", Proc. Symp. Pure Math. **21** (1971), 99-106, Amer. Math. Soc., Providence, R.I.
- [15] (with R. Elman) *Pfister forms and K -theory of fields.* Bull. Amer. Math. Soc. **77** (1971), 971-974.
- [16] (with R. Elman) *Determination of k_n ($n \geq 3$) for global fields.* Proc. Amer. Math. Soc. **31** (1972), 427-428.
- [17] (with R. Elman) *Pfister forms and K -theory of fields.* J. Algebra **23** (1972), 181-213.

- [18] (with R. Elman) *Quadratic forms over formally real fields and pythagorean fields*. Amer. J. Math. **94** (1972), 1155-1194.
- [19] (with R. Elman) *Quadratic forms and the u -invariant, I*. Math. Zeit. **131** (1973), 283-304.
- [20] (with R. Elman) *Quadratic forms and the u -invariant, II*. Invent. Math. **21** (1973), 125-137.
- [21] (with R. Elman) *On the quaternion symbol homomorphism $g_F : k_2F \rightarrow B(F)$* . In "Algebraic K -theory II", Springer Lecture Notes in Math. **342** (1973), 447-463.
- [22] (with R. Elman) *Pfister forms and their applications*, J. Number Theory **5** (1973), 367-378.
- [23] (with R. Elman and A. Prestel) *On some Hasse principles over formally real fields*. Math. Zeit. **134** (1973), 291-301.
- [24] (with R. Elman) *Classification theorems for quadratic forms over fields*. Comment. Math. Helv. **49** (1974), 373-381.
- [25] (with M. K. Siu) *K_0 and K_1 — An introduction to algebraic K -theory*. Amer. Math. Monthly **82** (1975), 329-364.
- [26] *Series summation of stably free modules*. Quart. J. Math. **27** (1976), 37-46.
- [27] *A refinement of Green's theorem on the defect group of a p -block*. Proc. Amer. Math. Soc. **54** (1976), 45-48.
- [28] (with R. Elman) *Quadratic forms under algebraic extensions*. Math. Ann. **219** (1976), 21-42.
- [29] *Ten Lectures on Quadratic Forms over Fields*. Proc. of Conf. on Quadratic Forms (ed. G. Orzech), Queen's Papers in Pure and Applied Math. **46** (1976), 1-102.
- [30] (with M. D. Choi) *An old question of Hilbert*. Proc. of Conf. on Quadratic Forms (ed. G. Orzech), Queen's Papers in Pure and Applied Math. **46** (1976), 385-405.
- [31] (with R. Elman and A. Wadsworth) *Amenable fields and Pfister extension.*, Proc. of Conf. on Quadratic Forms (ed. G. Orzech), Queen's Papers in Pure and Applied Math. **46** (1976), 445-492.
- [32] *Young diagrams, Schur functions, the Gale-Ryser theorem and a conjecture of Snapper*. J. Pure and Applied Algebra **10** (1977), 81-94.
- [33] (with M. D. Choi) *Extremal positive semidefinite forms*. Math. Ann. **231** (1977), 1-18.
- [34] (with R. Elman and A. Wadsworth) *Function fields of Pfister forms*. Invent. Math. **51** (1979), 61-75.

- [35] (with R. Elman and A. Wadsworth) *Orderings under field extensions*. J. Reine Angew. Math. **306** (1979), 7-27.
- [36] (with R. Elman and A. Wadsworth) *Pfister ideals in Witt rings*. Math. Ann. **245** (1979), 219-245.
- [37] (with M. D. Choi and B. Reznick) *Real zeros of positive semidefinite forms*. Math. Zeit. **171** (1980), 1-26.
- [38] *The theory of ordered fields*. Proc. of the Third Algebra and Ring Theory Conf. (ed. B. McDonald), Lecture Notes in Pure and Applied Math. **55** (1980), 1-152, Marcel Dekker, N.Y.
- [39] (with R. Elman and A. Wadsworth) *Quadratic forms under multiquadratic extensions*. Indag. Math. **42** (1980), 131-145.
- [40] (with Z. D. Dai and C. K. Peng) *Levels in algebra and topology*. Bull. Amer. Math. Soc. (New Series) **3** (1980), 845-848.
- [41] (with M. D. Choi, B. Reznick and A. Rosenberg) *Sums of squares in some integral domains*. J. Algebra **65** (1980), 234-256.
- [42] *Representation Theory*, in "Emmy Noether, A Tribute to Her Life and Work" (eds. J. Brewer and M. K. Smith), pp. 145-156, Marcel Dekker, New York and Basel, 1981.
- [43] (with Z. D. Dai and R. J. Milgram) *Application of topology to problems on sums of squares*. L'Enseignement Math. **27** (1981), 277-283.
- [44] (with D. Shapiro) *The square class invariant for pythagorean fields*. In "Ordered Fields and Real Algebraic Geometry" (eds. D. W. Dubois and T. Récio), Contemp. Math. **8** (1981), 327-340, Amer. Math. Soc., Providence, R.I.
- [45] *An Introduction to Real Algebra*. Sexta Escuela Latino-Americano Matematicas (ELAM VI), 76 pages, Oaxtepec, Morelos, Mexico, July, 1982.
- [46] (with M. D. Choi, Z. D. Dai and B. Reznick) *The pythagorean number of some affine algebras*. J. Reine Angew. Math. **336** (1982), 45-82.
- [47] (with M. D. Choi, M. Knebusch and B. Reznick) *Transversal zeros and positive semidefinite forms*. In "Géométrie Algébrique Réelle et Formes Quadratiques", Proc. Conf. in Rennes, Springer Lecture Notes in Math. **959** (1982), 273-298.
- [48] (with R. Elman, J.-P. Tignol and A. Wadsworth) *Witt rings and Brauer groups under multiquadratic extensions*. Amer. J. Math. **105** (1983), 1119-1170.
- [49] (with Z. D. Dai) *Levels in algebra and topology*. Comment. Math. Helv. **59** (1984), 376-424.
- [50] *An introduction to real algebra*. Rocky Mtn. J. Math. **14** (1984), 769-814.

- [51] *A general theory of Vandermonde matrices.* Expos. Math. **4** (1986), 193-215.
- [52] (with M. D. Choi and B. Reznick) *Even symmetric sextics.* Math. Zeit. **195** (1987), 559-580.
- [53] *On the number of solutions of $x^{p^k} = a$ in a p -group.* Ill. J. Math. **32** (1988), 575-583.
- [54] (with A. Leroy) *Vandermonde and Wronskian matrices over division rings.* Bull. Soc. Math. Belgique **40** (Série A) (1988), 281-286.
- [55] (with A. Leroy) *Vandermonde and Wronskian matrices over division rings.* J. Algebra **119** (1988), 308-336.
- [56] (with A. Leroy) *Algebraic conjugacy classes and skew polynomial rings.* In “Perspectives in Ring Theory”, Proc. Antwerp Conf. in Ring Theory (ed. F. van Oystaeyen, L. LeBruyn), pp. 153-203, NATO ASI Series, Kluwer Academic Publishers, 1988.
- [57] *Fields of u -invariant 6 after A. Merkurjev.* In “Ring Theory 1989” (in honor of S. A. Amitsur), ed. L. Rowen, Israel Math. Conf. Proc. **1** (1989), pp. 12-30, Weizmann Science Press, Israel.
- [58] (with A. Leroy, K. H. Leung and J. Matczuk) *Invariant and semi-invariant polynomials in skew polynomial rings.* in “Ring Theory 1989” (in honor of S. A. Amitsur), ed. L. Rowen, Israel Math. Conf. Proc. **1** (1989), pp. 247-261, Weizmann Science Press, Israel.
- [59] Review of “Quadratic and Hermitian Forms” by W. Scharlau. Bull. Amer. Math. Soc. (New Series) **21** (1989), 121-125.
- [60] (with T. L. Smith) *On the Clifford-Littlewood-Eckmann groups — a new look at periodicity mod 8.* Rocky Mtn. J. Math. **19** (1989), 745-781.
- [61] (with M. D. Choi and B. Reznick) *Positive sextics and Schur’s inequalities.* J. Algebra **141** (1991), 36-77.
- [62] (with A. Leroy) *Homomorphisms between Ore extensions.* Proc. of Conference Honoring Prof. G. Azumaya (ed. D. Haile and J. Osterburg), Contemp. Math., Vol. **124** (1992), 83-110.
- [63] Review of “Numbers” by Ebbinghaus et al., Amer. Math. Monthly **100** (1992), 970-973.
- [64] (with D. Leep) *Combinatorial structure of the automorphism group of S_6 .* Expos. Math. **11** (1993), 289-308.
- [65] (with T. L. Smith) *On Yuzvinsky’s monomial pairings.* Quart. J. Math. **44** (1993), 215-237.

- [66] (with D. Leep and J. P. Tignol) *Biquaternion algebras and quartic extensions*. Publ. Math. IHES **77** (1993), 63-102.
- [67] (with A. Leroy) *Hilbert 90 Theorems for division rings*. Trans. Amer. Math. Soc. **345** (1994), 595-622.
- [68] (with M. D. Choi and B. Reznick) *Sums of squares of real polynomials*. Symp. in Pure Math. **58** (1995), 103-126, Amer. Math. Soc., Providence, R.I.
- [69] (with M.-A. Knus, J.-P. Tignol and D. Shapiro) *Discriminants of involutions on biquaternion algebras*. Symp. in Pure Math. **58** (1995), 279-303, Amer. Math. Soc., Providence, R.I.
- [70] *A lifting theorem, and rings with isomorphic matrix rings*, in “Fifty Years as a Mathematician and Educator: On the 80th Birthday of Professor Y. C. Wong” (eds. K. Y. Chan and M. C. Liu), pp. 169-186, World Scientific Publ. Co., London-Singapore-Hong Kong, 1995.
- [71] (with M. D. Choi, A. Prestel and B. Reznick) *Sums of $2m$ th powers of rational functions over a real closed field*. Math. Zeit. **221** (1996), 93-112.
- [72] (with K. H. Leung) *On the cyclotomic polynomial $\Phi_{pq}(X)$* . Amer. Math. Monthly **103** (1996), 562-564.
- [73] (with A. Leroy) *Recognition and computations of matrix rings*. Israel J. Math. **96** (1996), 379-397.
- [74] (with K. H. Leung) *Vanishing sums of m -th roots of unity in finite fields*. Finite Fields and Their Applications **2** (1996), 422-438.
- [75] (with W. Murray) *Unit regular elements in corner rings*. Bull. Hong Kong Math. Soc. **1** (1997), 61-65.
- [76] *Representations of finite groups: a hundred years*, Part I. Notices A.M.S. **45** (1998), 361-372.
- [77] *Representations of finite groups: a hundred years*, Part II. Notices A.M.S. **45** (1998), 465-474. (A slightly expanded version of [77] and [78] also appeared in [89] below.)
- [78] (with A. Leroy and J. Matczuk) *Primeness, semiprimeness, and prime radicals for Ore extensions*. Comm. Algebra **25** (1997), 2459-2506.
- [79] *A fantasia on quaternions and near-fields*. Expos. Math. **16** (1998), 85-93.
- [80] *A theorem of Burnside on matrix rings*. Amer. Math. Monthly **105** (1998), 651-653.
- [81] (with S. K. Jain and A. Leroy) *On uniform dimensions of ideals in right nonsingular rings*. Journal of Pure and Applied Algebra **133** (1998), 117-139.

- [82] (with A. Borisov, M. Filaseta and O. Trifonov) *Classes of polynomials having only one non-cyclotomic irreducible factor*. Acta Arithmetica **90** (1999), 121-153.
- [83] *Bass's work in ring theory and projective modules*, in "Algebra, K-theory, Groups, and Education, on the Occasion of Hyman Bass's 65th Birthday" (T. Y. Lam, A. Magid, eds.). Contemp. Math. **243** (1999), pp. 83-124, Amer. Math. Soc., Providence, R.I.
- [84] *On the diagonalization of quadratic forms*, Math. Magazine **72** (1999). 231-235,
- [85] (with K. H. Leung) *On vanishing sums of roots of unity*. J. of Algebra **224** (2000), 91-109.
- [86] *On the equality of row rank and column rank*. Expos. Math. **18** (2000), 161-164.
- [87] (with A. Leroy) *Principal one-sided ideals in Ore polynomial rings*. Algebra and Its Applications (S.K. Jain, D. Van Hyunh and S. Lopez-Permouth, eds.), Contemp. Math. **259** (2000), pp. 333-352, Amer. Math. Soc., Providence, R.I.
- [88] *Finite groups embeddable in division rings*. Proc. Amer. Math. Soc. **129** (2001), 3161-3166.
- [89] *Representations of finite groups: a hundred years. Aspects of Mathematics: Algebra, Geometry and Several Complex Variables* (N. Mok, ed.), pp. 142-196, University of Hong Kong, Hong Kong, 2001.
- [90] (with M. D. Choi and B. Reznick) *Lattice polytopes with distinct pair-sums*. Discrete and Computational Geometry **27** (2002), 65-72.
- [91] *Local Rings*. In "The Concise Handbook of Algebra" (A. V. Mikhalev and G. F. Pilz, eds.), pp. 169-173. Kluwer Academic Publishers, 2002.
- [92] *Semilocal Rings*. In "The Concise Handbook of Algebra" (A. V. Mikhalev and G. F. Pilz, eds.), pp. 173-177. Kluwer Academic Publishers, 2002.
- [93] *Orders and Maximal Orders*. In "The Concise Handbook of Algebra" (A. V. Mikhalev and G. F. Pilz, eds.), pp. 273-278, Kluwer Academic Publishers, 2002.
- [94] *Ordered Fields*. In "The Concise Handbook of Algebra" (A. V. Mikhalev and G. F. Pilz, eds.), pp. 373-377. Kluwer Academic Publishers, 2002.
- [95] *On the linkage of quaternion algebras*. Bull. Soc. Math. Belg. **9** (2002), 415-418.
- [96] (with A. Leroy) *Wedderburn polynomials over division rings*, (in Chinese). In "Algebra in the 21st Century" (J.P. Zhang, ed.), Peking University Press, pp. 186-202, Beijing, 2002.
- [97] (with M. Filaseta) *On the irreducibility of the generalized Laguerre polynomials*. Acta Arithm. **105** (2002), 177-182.

- [98] (with L. G. Feng) *Projective modules over some Prüfer rings*. L'Enseig. Math. **48** (2002), 345-357.
- [99] *Hamilton's quaternions*. In "Handbook in Algebra", Volume 3 (M. Hazewinkel, ed.), pp. 429-454, Elsevier Publishers, 2003.
- [100] (with A. Leroy) *Wedderburn polynomials over division rings, I*, J. Pure and Applied Algebra **186** (2004), 43-76.
- [101] *On subgroups of prime index*. Amer. Math. Monthly **111** (2004), 256-258.
- [102] *A crash course on stable range, cancellation, substitution, and exchange*. J. Algebra and Its Appl. **3** (2004), 301-343.
- [103] (with D. Khurana) *Clean matrices and unit-regular matrices*. Journal of Algebra **280** (2004), 683-698.
- [104] (with D. Khurana) *Rings with internal cancellation* (with an appendix by R.G. Swan). Journal of Algebra **284** (2005), 203-235.
- [105] (with A. S. Dugas): *Quasi-duo rings and stable range descent*. J. Pure and Applied Algebra **195** (2005), 243-259.
- [106] *Corner ring theory: a generalization of Peirce decompositions, I*, Algebras, Rings, and Their Representations, Proc. International Conference in Algebras, Modules, and Rings (Lisbon, 2003), pp. 153-182. World Scientific Publ., 2006.
- [107] (with V. Camillo, D. Khurana, W.K. Nicholson, and Y. Zhou): *Continuous modules are clean*. J. Algebra **304** (2006), 94-111.
- [108] (with R. G. Swan): *Sums of alternating matrices and invertible matrices*. Algebra and Its Applications, Proc. International Conference, Athens, Ohio, March, 2005, D.V. Huynh, S.K. Jain, S.R. López-Permouth, eds; Contemp. Math. **419** (2006), 201-211, Amer. Math. Soc., Providence, R.I.
- [109] (with D. Eisenbud) *In memorium: Irving Kaplansky (1917-2006)*. First published in 2006 by the Academic Senate, U.C. Berkeley; later reprinted by Celebratio Math., 2007.
- [110] (with H. Bass) *Irving Kaplansky: 1917-2006*. Notices of Amer. Math. Soc. **54** (2007), 1477-1493.
- [111] (with M. L. Reyes): *A prime ideal principle in commutative algebra*. J. Algebra **319** (2008), 3006-3027.
- [112] (with V. Kodiyalam and R. G. Swan): *Determinantal ideals, Pfaffian ideals, and the principal minor theorem*. Noncommutative Rings, Group Rings, Diagram Algebras and Their Applications, Proc. International Conference, Chennai, India, December, 2006, S.K. Jain, S. Parvathi, eds., Contemp. Math. **456** (2008), 35-60, Amer. Math. Soc., Providence, R.I.

- [113] (with A. Leroy and A. Ozturk) *Wedderburn polynomials over division rings*, II. Proc. International Conference, Chennai, India, December, 2006, S.K. Jain, S. Parvathi, eds, Contemp. Math. **456** (2008), 73–98, Amer. Math. Soc., Providence, R.I.
- [114] (with S. K. Jain and A. Leroy): *Ore extensions and V-domains*. Proc. International Conference on Rings and Things, June, 2007, N.V. Dung, F. Guerriero. L. Hammoudi, and P. Kanwar, eds, Contemp. Math. **480** (2009), 249-262, Amer. Math. Soc., Providence, R.I.
- [115] (with M. L. Reyes): *Oka and Ako families of ideals*. Proc. International Conference on Rings and Things, June, 2007, N.V. Dung, F. Guerriero. L. Hammoudi, and P. Kanwar, eds, Contemp. Math. **480** (2009), 263-288, Amer. Math. Soc., Providence, R.I.
- [116] (with R.N. Gupta, A. Khurana, and D. Khurana): *Rings over which the transpose of every invertible matrix is invertible*. J. Algebra **322** (2009), 1627–1636.
- [117] (with R. G. Swan): *Symplectic modules and von Neumann regular matrices over commutative rings*. Advances in Ring Theory (D. V. Huynh and S. López-Permouth, eds.), Proceedings of Ohio Conference Proceedings, June, 2008, pp. 213–227, Birkhäuser, 2010.
- [118] (with D. Khurana): *Invertible commutators in matrix rings*. J. Algebra Appl. **10** (2011), 1–21.
- [119] (with D. Khurana and Z. Wang): *Rings with square stable range one*. J. Algebra **338** (2011), 122–143.
- [120] (with J. Chen, D. Khurana and Z. Wang): *Rings with idempotent stable range one*. Alg. Repres. Theory **15** (2012), 195–200.
- [121] (with D. Khurana and N. Shomron): *A quantum-trace determinantal formula for matrix commutators, and applications*. Lin. Alg. Appl. **436** (2012), 2380–2397.
- [122] (with D. Khurana): *Generalized commutators in matrix rings*. Lin. Multilin. Algebra **60** (2012), 797–927.
- [123] (with V. Camillo, D. Khurana, W.K. Nicholson, and Y. Zhou): *A short proof that continuous modules are clean*. Contemporary Ring Theory 2011, Proceedings of the Sixth China-Japan-Korea Conference on Ring Theory (J.Y. Kim, C. Huh, Y. Lee, T.K. Kwak, eds.) 165–169, World Scientific, 2012.
- [124] (with P. P. Nielsen) *Jacobson’s lemma for Drazin inverses*. Ring Theory and Its Applications (Huynh, Jain, Lopez, Rizvi, Roman, eds.) Contemp. Math. **609** (2014), 185–195, Amer. Math. Soc., Providence, R.I.
- [125] (with P. P. Nielsen) *Inner inverses and inner annihilators in rings*. J. Algebra **397** (2014), 91–110.

- [126] (with H. Grover, Z. Wang, D. Khurana, and J. Chen): *Sums of units in rings*. J. Alg. Appl. **13** (2014), 1350072, 10 pp.
- [127] (with A. Alahmadi, S.K. Jain and A. Leroy): *Euclidean pairs and quasi-Euclidean rings*. J. Algebra **406** (2014), 154–170.
- [128] (with D. Khurana, P.P. Nielsen, and Y. Zhou): *Uniquely clean elements in rings*. Comm. Alg. **43** (2015), 1742–1751.
- [129] (with D. Khurana and P.P. Nielsen): *Two-sided properties of elements in exchange rings*. Alg. Repres. Theory **18** (2015), 931–940.
- [130] (with D. Khurana and P.P. Nielsen): *Exchange rings, exchange equations, and lifting properties*. Int. J. Alg. Computations **26** (2016), 1177–1198.
- [131] (with P. V. Danchev): *Rings with unipotent units*. Publ. Math. Debrecen **88** (2016), 449–466.
- [132] (with G. Călugăreanu): *Fine rings: a new class of simple rings*. J. Alg. Appl. **15** (2016), 1650173 (18 pages).
- [133] (with D. Khurana and P.P. Nielsen): *Exchange elements in rings, and the equation $XA - BX = I$* . Trans. Amer. Math. Soc. **369** (2017), 495–516.
- [134] (with D. Khurana and P.P. Nielsen): *An ensemble of idempotent lifting hypotheses*. J. Pure & Applied Algebra **222** (2018), 1489–1511.
- [135] (with D. Khurana): *Commutators and anti-commutators of idempotents in rings*. Advances in Rings and Modules (S. Lopez, J.K. Park, S. Rizvi, and C. Roman, eds.), Contemp. Math. **715** (2018), 205–224, Amer. Math. Soc., Providence, R.I.
- [136] (with P. P. Nielsen) *Jacobson pairs and Bott-Duffin decompositions in rings*. Rings, Modules and Codes, Proceedings NCRA (A. Leroy, C. Lomp, S. López-Permouth, F. Oggier, eds.), Contemp. Math. **727** (2019), 249–267, Amer. Math. Soc., Providence, RI.
- [137] (with D. Khurana, P.P. Nielsen, and J. Šter): *Special clean elements in rings*. J. Alg. Applic. **19** (2020), 2050208 (27 pages).
- [138] *An introduction to q -central idempotents and q -abelian rings*. Comm. Alg. **51** (2023), 1071–1088.
- [139] (with D. Khurana) *A new determinantal formula for three matrices*. J. Alg. Applic. **24** (2025), 2550104 (6 pages).
- [140] *On some generalizations of abelian rings*. J. Alg. Applic. **24** (2025), 2550146 (29 pages).
- [141] (with D. Khurana) *Ring elements of stable range one*. J. Algebra **xx** (2025).
- [142] (with Zhiling Ying): *A study of strongly clean elements in rings*. In preparation, 2024.

Books

- [1] *The Algebraic Theory of Quadratic Forms*, xi+343 pp., Lecture Notes Series in Mathematics, Benjamin/Addison-Wesley, Reading, Mass., 1973. (Reprinted with Revisions: 1980.)
- [2] *Serre's Conjecture*, xv+227 pp., Lecture Notes in Mathematics, Vol. 635, Springer-Verlag, Berlin-Heidelberg-New York, 1978.
- [3] *Orderings, Valuations, and Quadratic Forms*, vii+143 pp., CBMS Regional Conference Series in Mathematics, Vol. 52, American Mathematical Society, Providence, R.I., 1983. (Second Printing: 1996.)
- [4] *A First Course in Noncommutative Rings*, xv+397 pp., Graduate Texts in Mathematics, Vol. 131, Springer-Verlag, Berlin-Heidelberg-New York, 1991. (Second Edition, xv+385 pp., 2001.)
- [5] *Recent Advances in Quadratic Forms and Real Algebraic Geometry* (W. Jacob, T. Y. Lam and R. Robson, eds.) Contemp. Math., Vol. 144, Amer. Math. Soc., Providence, R.I., 1994.
- [6] *Exercises in Classical Ring Theory*, Problem Books in Mathematics, xiii+287 pages, Springer-Verlag, Berlin-Heidelberg-New York, 1995. (Second Edition, xix+359 pp., 2003.)
- [7] *Lectures on Modules and Rings*, Graduate Texts in Math., Vol. 189, xxiv+557 pp., Springer-Verlag, Berlin-Heidelberg-New York, 1999.
- [8] *Modules with isomorphic multiples, and rings with isomorphic matrix rings — a survey*, 71 pages, Monographie No. 35, L'Enseignement Math., Geneva, Switzerland, 1999.
- [9] *Algebra, K-Theory, Groups, and Education on the Occasion of Hyman Bass's 65th Birthday*, T. Y. Lam and A. Magid, eds., Contemp. Math. Vol. 243, Amer. Math. Soc., Providence, R.I., 1999.
- [10] *Introduction to Quadratic Forms over Fields*, Graduate Studies in Math., Vol. 67, xxi+555 pp, Amer. Math. Soc., Providence, R.I., 2005.
- [11] *Serre's Problem on Projective Modules*, Monographs in Math., xvii+403 pp., Springer-Verlag, Berlin-Heidelberg-New York, 2006.
- [12] *Exercises in Modules and Rings*, Problem Books in Mathematics, xviii+412 pp., Springer-Verlag, 2006.
- [13] *Excursions in Ring Theory*. To appear in 2024.