

Short C.V. André Leroy

Date of birth: 7th May 1955

Private address: 35 Route de la bassée Apt. 7, 62300 Lens, France

Professional address: Université d'Artois, Faculté Jean Perrin, 23 rue Jean Souvraz, 62300 Lens, France.

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Degrees

Ph.D. Dérivations algébriques, Université de Mons, Hainaut (Belgique), 1985

Habilitation à diriger des recherches: Structure et arithmétique des extensions de Ore, Valenciennes (France), 1992.

Positions held

- Assistant Université de Mons 1978-1985.
- Maître de conférences Université de Mons, 1985-1988.
- ATER Université de Lille, 1988-1989.
- Maître de conférences, Université de Valenciennes, 1989-1994.
- Professeur Université d'Artois, 1994-2022
- Professeur émérite 2022-

Stays in foreign universities (cumulating more than six months)

- Post doc at Berkeley University, USA and different stays in this university from 1986 till 2001.
- Warsaw University, Poland (Many stays from 1984 latest stay in March 2017).
- Ohio University, USA (Many stays from 1995, latest stay in May 2016).

Main talks since 2012

- (1) Racines de polynômes gauches et transformations pseudo-linéaires, Limoges Janvier 2012
- (2) Coding theory and noncommutative rings, Warsaw March 2012
- (3) Idempotents in rings extensions, Jeddah April 2012
- (4) McCoy and strongly McCoy rings, Jeddah April 2012
- (5) Factorizations in Ore extensions, Columbus May 2012
- (6) Factorizations in Ore extensions, Alger Juin 2012
- (7) McCoy and strongly McCoy rings, Bialystok (Poland), Juin 2012
- (8) Singular matrices as products of idempotents matrices, Akron (USA) October 2012
- (9) Idempotents in Ring Extensions, Sheffield (B.M.C.), March 2013. Decompositions of singular matrices in Products of idempotents, Bedlewo, Poland July 2013
- (10) PLT, coding and factorizations in Ore extensions, Saint Louis October 2013
- (11) Euclidean pairs Euclidean rings and continuant polynomials, July 2014, Ubatuba, Brasil.

- (12) Continuant polynomials, December 2014, Manipal, India.
- (13) Euclidean pairs, decomposition into idempotents and related topics, Montevideo 2015.
- (14) Decomposition into products of idempotents and related topics, Alger Octobre 2015.
- (15) Quasi permutation matrices and product of idempotents, Denison Conference Columbus (Ohio), May 2016.
- (16) Decomposition of nonnegative singular matrices into products of nonnegative idempotents, Warsaw March 2017.
- (17) Quasi-Euclidean rings, Porto April 2017.
- (18) Decomposition of singular matrices, Manipal (India) May 2018.
- (19) Commutatively closed sets, Aurangabad (India) May 2018.
- (20) Generalization of the Jacobson radical, Conference, New trends in rings theory Istanbul, Juin 2018 (Turkey)
- (21) Product of idempotent matrices, Porto September 2018.
- (22) Decomposition of singular matrices, Conference in Yazd (Iran) January 2019.
- (23) Noncommutative rings in coding theory, Tehran (Iran) January, 2019.
- (24) Cimpa school in Cairo, Lectures on Ore extensions, December 2022.
- (25) Periodic and potent elements February 2023, Sao Paulo.
- (26) Evaluating skew polynomials, Curitiba (Brazil), February 2023.
- (27) Decompositions of singular elements into products of idempotents, Ohio State University (Denison conference), May 2024.
- (28) Potent, periodic and semiclean elements, GRGR, Ubatuba, July 2024.
- (29) Evaluations of skew iterated polynomials, 27 Brazilian Algebra Meeting · IME-USP July 2024.

Ph.D. Students

N'kanza Mfundu, University of Mons, Centralisateurs de l'indéterminée, 1987 (Cotutelle).

Adem Ozturk, University of Mons, Contributions to the Arithmetic of 2-firs (2003).

Jonathan Delenclos, Noncommutative symmetric Functions and Wedderburn polynomials, Université d'Artois (2008).

Dilshad Alghazzawi, Commutatively and symmetrically closed subsets in Rings, Université d'Artois.

Ahmed Bouzidi (co-responsible with A. Chechem in USTHB)

Guanglin Ma, Nankin (China) One year from March 2023 till March 2024 (stage doctoral, co-responsible with Y. Wang Nanjin, China).

Scientific responsibilities

1) Editor

- Journal of Algebra and its Applications.
- North-Western European Journal of Mathematics.
- Proceedings of the NCRA, III (Contemp. Math. 637) , Proceedings of the NCRA IV (Jacodemath) and Proceedings of NCRA VI (Contemp. Math 727)

- 2) Member of the National committee of the universities (CNU).
- 3) Referee for many journals and reviewer for the Mathscinet

languages: French, English, Polish, Spanish, Dutch (in decreasing order)

Post doc

Here is the list of the postdoctoral stays (more than 6 months) that I was responsible for these last few years. These stays were funded by grants from different organisms.

- (1) Arda Kor, Gebze University, Turkey (2017-2018), 6 months.
- (2) Mona Abdi, Shahrood University of Technology, Iran (2018-2019), 9 months.
- (3) Mehديه Ebrahimpour, Vali-e-asr Rajsanjan University, Iran (2018-2019), 9 months.
- (4) Ahmed Djamel Bouzidi, (2018-2019) USTHB Alger 9 months).
- (5) Mehrdad Nasernejad, Iran Nine months, ends in July 2022. We are trying to extend the visa and his stay till 2024.

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- 2) Member of the National committee of the universities (CNU), ended in 2020.
- 3) Referee for many journals and reviewer for the Mathscinet.
- 4) Member of the Jury of many thesis the latest ones: Bouzidi Djamel (Alger, 2021); Dyksha Mukhija (Lens, 2021); Xavier Mary (Thèse d'habilitation, Nanterre June 2022) Mehrdad Nasernejad (Thèse d'Habilitation Université d'Artois, November 2023).

Organizations of events

Every two years I organize an international meeting called NCRA (NonCommutative Rings and their Applications). Usually this meetings have between 50-80 participants from all over the world. The proceedings of these events are published (Cont. Math. series or special issues of some journals,...). In 2023 this was the 8 editions of this event.

I also co-organize with Ahmed Laghribi the Algebra seminar in Lens.

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Publications

- (1) Un corps de caractéristique nulle, algébrique sur son centre, muni d'une involution S et d'une S -dérivation algébrique et non interne, *Compte-rendu de l'académie des sciences Paris*, 293 (1981), pp. 235-236
- (2) Anneaux simples différentiels, actes du VIème Congrès du groupement des mathématiciens d'expression latine, pp. 247-250
- (3) Sur les anneaux simples différentiels, en collaboration avec J.P. Tignol et P. Van Praag, *Communications in algebra*, (10), n° 12, pp. 1307-1314
- (4) Dérivations algébriques sur les corps gauches, *Bull. Soc. Math. de Belgique*, fascicule 1, série B, 1984, pp. 91-103

- (5) Dérivées logarithmiques pour une S-dérivation algébrique, *Communications in algebra*, (13) 1985, pp. 85-99
- (6) Quelques remarques à propos des S-dérivations, en collaboration avec J. Matczuk, *Communications in algebra*, (13) 1985, pp. 1229-1244
- (7) Dérivations algébriques, thèse, Université de l'Etat à Mons, 1985 Dérivations et automorphismes d'anneaux premiers, en collaboration avec J. MATCZUK. *Communications in algebra*, (13), 1985, pp. 1245-1266
- (8) Ensembles algébriques dans les corps gauches et dérivées logarithmiques, *Actes du VIIème Congrès du groupement des mathématiciens d'expression latine*, Coimbra, 1985
- (9) S-dérivations algébriques sur les anneaux premiers *Springer lectures notes in mathematics*, vol. (1197), 1986, pp. 114-120
- (10) S-dérivations algébriques sur les corps gauches et sur les anneaux premiers, *Communications in algebra*, (14), 1986, pp. 1473-1479
- (11) Les octaves de Cayley ont l'élimination linéaire 2, *Bull. Soc. Math. De Belgique*, vol.(39), Fasc. 2, série B, 1987, pp. 237-241
- (12) Sur le centralisateur de l'indéterminée dans le corps des fractions des anneaux de polynômes gauches, en collaboration avec N'Kanza Mfundu, *Bull. de l'école des Sciences de l'Académie Royale de Belgique*, vol. 73, 1987, pp. 84-86
- (13) Algebraic conjugacy classes and skew polynomial rings, in collaboration with T.Y. LAM, *perspectives in ring theory, proceedings of the 1987 NATO workshop in Antwerp, Reidel, 1988, 50 pages*
- (14) On the Gelfand-Kirillov dimension of normal localization and twisted polynomial rings, in collaboration with J. Matczuk and J. Okninski, *perspectives in ring theory proceedings of the NATO workshop in Antwerp, Reidel, 1988, 205-214*
- (15) Vandermonde and Wronskian matrices over division rings, in collaboration with T.Y. Lam, *Bull. Soc. Math. de Belgique*, vol. 40 , série A, 1988, pp. 281-286
- (16) Vandermonde and Wronskian matrices over division rings, with T.Y. Lam *Journal of algebra*, vol.119, n° 2, décembre 1988, pp. 308-336
- (17) Invariant and semi-invariant polynomials in skew polynomial rings, in collaboration with T.Y. Lam, K.H.Leung, J. Matczuk, in *ring theory 1989 (in honour of S.A. Amitsur)*, ed. L. Rowen, *Israel Mathematical conference proceedings*, pp. 153-203, Kluwer Academic Publishers.
- (18) Gelfand-Kirillov dimension of certain localizations, with J. MATCZUK. *Archi. der Math.* Vol. 53 , 439-447 (1989)
- (19) Prime ideals of Ore extensions, with J. Matczuk. *Communications in algebra*, 19(7), 1893-1907 (1991)
- (20) Homomorphisms between Ore extensions, with T.Y. LAM. *Contemporary Mathematics* Vol. 124 , 83-110 (1992)
- (21) The extended centroid and X-inner automorphism of Ore extensions, with J.Matczuk. *Journal of algebra*, vol. 145 , 143-177, n° 1, January 1992
- (22) Hilbert 90 theorems over division rings, with T.Y. Lam *Transactions of the American Mathematical Society*, vol. 345, 595-622, n° 2, October 1994 *Normes et theorems 90 d'Hilbert paru dans "note di informatica I fisica" CERFIM LOCARNO*, vol. 7 , décembre 1994, pp. 197-200

- (23) Structure et arithmétique des extensions de Ore , mémoire présenté en vue d'obtenir l'habilitation à diriger des recherches.
- (24) Pseudo linear transformation and evaluation in Ore extensions Bull. Soc. Math. Belg. Vol. 2, n° 3, May 1995, 321-347
- (25) Primitivity of skew polynomial and skew Laurent polynomial rings, with J. Matczuk Communications in Algebra, 24(7), 1996, pp. 2271-2284
- (26) Recognition and Computations of Matrix Rings, with T.Y. Lam Israel Journal of Mathematics 96, 1996, pp. 379-397
- (27) Primeness, semi-primeness and prime radical of Ore extensions, with T.Y. Lam and J. Matczuk Communications in Algebra, 25 (8), 1997, pp. 2459-2506
- (28) On uniform dimensions of ideals in right non-singular rings, with S.K. Jain and T.Y. Lam Journal of Pure and Applied Algebra, décembre 1998
- (29) Principal One-sided Ideals in Ore Polynomial Rings, with T.Y. Lam, Contemporary Math., 259, 2000, pp. 333-352
- (30) Artinian property of constants of algebraic q-skew derivations, with P. Grzeszczuk and J. Matczuk Israel journal of mathematics 121 (2001), 265-284
- (31) Wedderburn polynomials over division rings, I with T.Y.LAM Journal of Pure and Applied Algebra, 186 (2004) 43-76. 26
- (32) F-indépendance and factorizations in 2-firs, with Adem Ozturk Communications in Algebra, Vol. 32 (5) (2004), 1763-1792.
- (33) On induced Modules over Ore extensions, with J. Matczuk Communications in Algebra, 32 (2004), 2743-2766
- (34) Goldie conditions for Ore extensions over semiprime rings, with J. Matczuk, Algebras and Representation Theory, 8, (2005), 679-688.
- (35) Ore Extensions Satisfying a Polynomial Identity, en collaboration avec J. Matczuk Journal of Algebra and Its Applications, 5, (3) (2006), 287-306.
- (36) Noncommutative symmetric functions and Wedderburn polynomials, en collaboration avec Jonathan Delenclos Journal of Algebra and its Applications, 6 (5) (2007), 815-837
- (37) Wedderburn polynomials over division rings, II collaboration avec T.Y. Lam and A. Ozturk Proceedings of a conference held in Chennai at the Ramanujan Institute (Indes) Contemporary mathematics (456) 2008, pp. 73-98
- (38) Quasi duo skew polynomial rings, en collaboration avec J. Matczuk et E. Puczyłowski. Journal of Pure and Applied Algebra; Volume 212, Issue 8, August 2008, Pages 1951-1959
- (39) Ore extensions and V-domains, with S.K. Jain et T.Y.Lam Proceedings of a conference in honour of C. Faith, B. Osofsky, Contemporary Mathematics 480, 2009, pp 249-262
- (40) A description of Quasi duos \mathbb{Z} graded rings, en collaboration avec J. Matczuk et E. Puczyłowski Communications in Algebra, Volume 38, Issue 4, 2010, Pages 1319 – 1324.
- (41) Rings over which Cyclics are direct sums of projective and CS or noetherian en collaboration avec S.K. Jain et C. Holston, Glasgow Mathematical Journal Vol 52, 2010, pp 103-110.

- (42) On q -skew Ore extensions satisfying a Polynomial Identity, With J. Matczuk journal of Algebra and its Applications Volume: 10, Issue: 4(2011) pp. 771-781
- (43) ADS modules, with Adel Alahmadi et S.K. Jain, Journal of Algebra (2012) Volume 352, Issue 1, pp 25-222.
- (44) Noncommutative polynomial maps, Journal of Algebra and its Applications. vol. 11 (4), (2012)
- (45) Endomorphisms with large images, with J. Matczuk, in Glasgow mathematical Journal Volume 55, Issue 02, May 2013, pp 381-390 with J. Matczuk.
- (46) Idempotents in extensions of rings, J. Algebra Volume 389, 1 September 2013, Pages 128–136, en collaboration avec P. Kanwar et J. Matczuk.
- (47) Decomposition of Singular Matrices into Idempotents, Linear And Multilinear Algebra, 2013, with Adel Alahmadi and S.K. Jain.
- (48) (Sigma, Delta) codes, Advances in Mathematics communications, Volume 7, Issue 4, 2013 Pages 463-474, En collaboration avec M'Hammed Boulagouaz.
- (49) Strongly McCoy rings, Contemporary Mathematics 609, 233-244 (2014), with J. Matczuk.
- (50) Euclidean pairs and quasi euclidean rings, with A. Alahmadi, S.K. Jain and T.Y. Lam J. of Algebra (2014)
- (51) Zip property of certain ring extensions : Journal of pure and applied algebra, ISSN 0022-4049, Vol. 220, N^o 1 (January 2016), 2016, págs. 335-345 with J. Matczuk.
- (52) Clean elements in polynomial rings, with J. Matczuk and P. Kanwar Contemporary math. vol. 634 (2015)
- (53) Chains of prime ideals and primitivity of \mathbb{Z} -graded algebras, with B. Greenfeld A. Smoktunowicz and M. Ziemkowski.
- (54) Leapfrog Constructions: From Continuant Polynomials to Permanents of Matrices, The Electronic Journal of Combinatorics Volume 22, Issue 1 (2015) with Alberto Facchini, 2015.
- (55) Decomposition into products of idempotents en collaboration avec S.K. Jain, A. Alahmadi et A. Satahaye, Electronic Journal of linear algebra, Vol. 29, 2015.
- (56) Exponents of skew polynomial rings, en collaboration avec Ahmed Cherchem, Finite Fields and their Applications, Vol.37, 2016.
- (57) Long module skew codes are good, en collaboration avec Alahmadi et Sole, Discrete Mathematics, Vol. 339, 2016.
- (58) Self dual codes over noncommutative Frobenius rings, en collaboration avec S. Dougherty, Applicable Algebra in Engineering, Communication and Computing, 2016.
- (59) Elementary matrices and products of idempotents, with Alberto Facchini, Linear and multilinear algebra, 2016.
- (60) On the duality and the direction of polycyclic codes, with A. Alahmadi and P. Solé Advances in Mathematics of Communications, Vol. 10, 2016.
- (61) Quasi-permutation singular matrices are products of idempotents, With A. Alahmadi and S.K. Jain, Linear Algebra and its Application Vol 496, 2016.
- (62) When are nonnegative matrices products of nonnegative idempotents? with A. Alahmadi and S.K. Jain, Linear and Multilinear Algebra, May 2017.

- (63) Rings whose proper images are almost self-injective. in Rings, modules and codes, 1–5, *Contemp. Math.*, 727, Amer. Math. Soc., Providence, RI, (2019) with A. Alahmadi, S.K. Jain.
- (64) S. Dougherty, A. Kor, A. Leroy Generating characters of noncommutative Frobenius noncommutative rings. Rings, modules and codes, 83–92, *Contemp. Math.*, 727, Amer. Math. Soc., Providence, RI, (2019)
- (65) On UJ-rings, with J. Matczuk, K.Tamer, *Communications in Algebra Comm. Algebra* 46 (2018).
- (66) On the Jacobson radicals, with J. Matczuk, Remarks on the Jacobson radical. Rings, modules and codes, 269–276, *Contemp. Math.*, 727, Amer. Math. Soc., Providence, RI, (2019)
- (67) Commutatively closed sets in rings, with Dilshad Alghazzawi *Comm. Algebra* 47 (2019), no. 4, 1629–1641.
- (68) Regular elements determined by generalized inverses, with A. Alahmadi and S.K. Jain, . *J. Algebra Appl.* 18 (2019), no. 7.
- (69) Decomposition of singular elements of an algebra into product of idempotents, a survey, *Contributions in algebra and algebraic geometry*, 57–74, *Contemp. Math.*, 738, Amer. Math. Soc., Providence, RI, (2019)
- (70) Invariance and Parallel sums, *IN Bulletin of Mathematical sciences*, 2020 (DOI: 10.1142/S1664360720500010) With A. Alahmadi and S.K. Jain.
- (71) Exponents of skew polynomials over periodic rings, in communication in *Algebra*, 2021 (with A. cherchem and A. Bouzidi)
- (72) Graphs of Commutatively closed sets, (with M. Abdi), *Linear and multilinear algebra*, Published online: 20 Sep 2021.
- (73) Evaluations in iterated Ore extensions and Reed-Muller codes, *Contemp. Math. (AMS)*, in 2023.
- (74) On matrix wreath products Algebras, with S.K. Jain, *J. of Algebra* (2023).
- (75) "Symmetric closure in modules and rings", André Leroy and Mehrdad Nasernejad, *Communications in algebra*, Published online: August 2023.
- (76) Iterated Ore polynomial maps, André Leroy and Mehrdad Nasernejad *Journal of Algebra and Its Applications* (online 26 Oct 2023).
- (77) Evaluations in iterated Ore extensions and Reed-Muller codes, with A. Bennenni, *Contemp. Math. (AMS)*, 2023.
- (78) Matrices representable as product of conjugates of a singular matrix with S.K. Jain, *contemporary. Math. (AMS)*, 2023.
- (79) "Rings in which elements are a sum of a central and an element in the Jacobson radical, G. Ma, Y. Wang, A. Leroy, *Czechoslovak Math. Journal.*, 2024.
- (80) Potent and periodic elements, To appear in *Journal of Algebra and its applications*, 2024 (with Guanglin Ma and M. Nasernejad).
- (81) Structure and arithmetic of multivariate Ore extensions, *Communications in Algebra* , to appear (With Huda Merdach).
- (82) Decomposition of matrices into product of idempotents and separativity of regular rings, Submitted (With S.K. Jain)
- (83) New Scalar product and LCD codes, submitted (With Nabil Bennenni)

In preparation

- (1) Skew sequences, en collaboration with A. Cherchem.

- (2) Quasi-Euclidean rings and modules, with A. Kor
- (3) Periodic and semiclean elements in rings (with Guanglin Ma).
- (4) Annihilating polynomials (with Huda Merdach).
- (5) Evaluations in a non commutative settings, a survey (With Huda Merdach).
- (6) Multivariate Ore extensions over a finite field (with Nabil Bennenni)
- (7) Hopf Ore extensions with Walter Ferrer.