

## CURRICULUM VITAE

**Name:** Yuqun Chen **Sex:** Male

**Place of Birth:** P.R. China

### **Address:**

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### **Education:**

Ph.D.: The Chinese University of Hong Kong, 1998

M.S.: South China Normal University, 1990

### **Academic Positions:**

South China Normal University, Professor, 2002-p.t.

South China Normal University, Associate Professor, 1995-2001

South China Normal University, Lecture, 1990-1994

Director, The Center of Combinatorial Algebra, South China Normal University, 2008-p.t.

### **Teaching:**

Abstract Algebra, Rings and Categories of Modules, Combinatorial Algebra, Combinatorial Group Theory, Groebner-Shirshov Bases Theory, Lie Algebra, Semigroup.

### **Editorial Board:**

Managing Editor (2002-2010), Editor (2010-p.t.), Southeast Asian Bulletin of Mathematics

Mathematical Review - Reviewer

Zentralblatt MATH - Reviewer

### **Awards:**

Natural Science Prize, Guangdong Province, China: 2005, 2015

NSFC Research Grant, China: 2000, 2008, 2011, 2016

NSF Research Grant, Guangdong Province, China: 2002, 2006, 2011, 2016

U.S.-China Collaboration in Mathematical Research: 2009

Research Fund for the Doctoral Program of Higher Education of China: 2012

Program on International Cooperation and Innovation, Department of Education, Guangdong Province: 2012

**Conference Organizers:**

“International workshop in Algebras and Applications” on 2-4 July, 2007, at South China Normal University, Guangzhou, China (with L.A. Bokut and K.P. Shum)

“The Founding Ceremony of the Center of Combinatorial” on 27-28 November, 2008, at South China Normal University, Guangzhou, China (with L.A. Bokut and K.P. Shum)

“International Conference on Algebra and Related Topics” on 23-27 June, 2009, at South China Normal University, Guangzhou, China (with L.A. Bokut and K.P. Shum)

“Workshop on Combinatorial Algebra”, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

**Invited visits abroad**

The Chinese University of Hong Kong (1999, 2002)

Sobolev Institute of Mathematics (2006, 2011)

University of California at San Diego (2010, 2011)

**Invited talks:**

- The Second International Congress in Algebras and Combinatorics, Xi'an University of Architecture and Technology, July 12-15, 2007.
- National Conference on Algebra-Geometry-Topology, Institute of Mathematics, Vietnam Academy of Science and Technology, December 17-19, 2007.
- International Conference on Group Theory and Related Topics, Xuzhou Normal University, April 19-25, 2008.
- International algebraic conference on the occasion of 100th anniversary of Professor A.G. Kurosh, Moscow State University, Russia, May 28-June 3, 2008.
- The 11th National Algebra Conference in China, Zhangjiajie, Hunan, October 19-25, 2008.
- International Workshop on Representation Theory and Its Applications, Sun Yat-Sen University, December 1-5, 2008.
- The First Joint Meeting of Chinese Mathematical Society and American Mathematical Society, Fudan University, December 17-21, 2008.
- International Conference on Algebra and Related Topics, South China Normal University, June 23-27, 2009.
- International Workshop on Quantized Algebra and Physics, Nankai University, July 23-26, 2009.
- Second International Workshop on Successful Strategies in Supply Chain Management, Hong Kong, January 8-9, 2009.
- Groebner-Shirshov bases for Rota-Baxter algebras and PBW theorem for Dendri-form dialgebras, University of California at San Diego, February 8, 2010.

- Summer School and Conference of Operads and Universal Algebra, Nankai University, June 28-July 9, 2010.
- The 12th National Algebra Conference in China, Lanzhou, June 20-24, 2010.
- International Conference on Algebra in honor of the 70th Birthday of Professor Shum Kar-Ping, Gajah-Mada University, Yogyakarta, Indonesia, October 7-10, 2010
- Fourth International Workshop on Differential Algebra and Related Topics, Beijing, China, October 27-30, 2010
- International Workshop on Representation Theory, South China University of Technology, July 4, 2011
- International Conference on Ring Theory dedicated to the 90th anniversary of A.I. Shirshov (1921-1981), Sobolev Institute of Mathematics, Russia, July 14-18, 2011.
- Workshop on Algebraic Combinatorics, Shanghai Jiao Tong University, September 15-18, 2011.
- Operads and rewriting, Institute Camille Jordan, Universite Claude Bernard Lyon 1, France, November 2-4, 2011.
- International Conference on Group Theory and Related Topics, Shanghai University, May 18-22, 2012.
- The 2nd National Ring and Algebra Conference in China, Fujian Normal University, July 22-26, 2012.
- International Conference on Multiple Zeta Values, Rota-Baxter Algebras and Related Topics, Lanzhou University, August 1-3, 2012.
- Workshop on Algebra, Combinatorics, Dynamics and Applications, Queen's University Belfast, August 27-30, 2012.
- International scientific conference on Algebra and Logic, Theory and Applications, Krasnoyarsk, Russia, July 21-27, 2013.
- The 13rd National Congress on Algebra, Changchun, China, August 4-10, 2013.
- International Conference on Algebra in Honour of Patrick Smith's and John Clark's 70th Birthdays, Balikesir, Turkey, August 12-15, 2013.
- Workshop on Representation Theory and Combinatorics, South China University of Technology, December 14-15, 2013.
- International Conference on Mathematical Research, Education and Applications, Vietnam National University-Ho Chi Ming City, Vietnam, December 21-23, 2013.
- 2014 Canadian Mathematical Society (CMS) Summer Meeting, Winnipeg, Manitoba, Canada, June 6-9, 2014.

- International Conference on Algebra and Applications-2014 (ICAA-2014), Andhra University, India, 29th April-1st May, 2014
- The 3rd International Congress in Algebras and Combinatorics (ICAC 2017), Hong Kong, August 25-28, 2017.
- 2017 Conference in Algebra, Southern University of Science and Technology, China, November 25-26, 2017.

## Publications

1. (with Mou-Cheng Zhang) Some results of semigroup rings, *Words, Languages and Combinatorics* (Kyoto, 1990), 564-574.
2. (with Mou-Cheng Zhang) The centralizers of semigroup rings, *Proceedings of Asian Mathematical Conference*, (Hong Kong, 1990), 554-559.
3. (with Mou-Cheng Zhang) On the group of units in semigroup rings, *Proceedings of the SEAMS Conference on Ordered Structures and Algebras of Computer Language*, World Scientific Inc., 1991, 310-323.
4. (with Mou-Cheng Zhang) Radicals of semigroup rings, *Southeast Asian Bull. Math.*, 19(1995), 99-103.
5. (with Mou-Cheng Zhang) Z-semigroups. *Proceedings of the Second Asian Mathematical Conference 1995* (Nakhon Ratchasima), 117-122.
6. (with Mou-Cheng Zhang, Yonghua Li) The intersection property of quasi-ideals in rings and semigroup rings, *Southeast Asian Bull. Math.*, 19(1996), 117-122.
7. (with K. P. Shum) Quasi-direct sums of rings and their radicals. *Comm. Algebra*, 25(1997), 3043-3055.
8. Some remarks on radicals of rings, *Pure Mathematics and Applications*, 9(1998), 265-271.
9. (with K. P. Shum) Projective and indecomposable S-acts, *Sci. China (Series A)*, 42:6(1999), 593-599.
10. (with K. P. Shum) On Algebras and their radicals, *Acta Math. Hungar.*, 85(1999), 331-344.
11. Projective S-acts and exact functors, *Algebra Colloq.*, 7(2000), 113-120.
12. (with Zhifeng Hao, Lianggui Feng, Degui Yang) On the homological modules of generalized triangular matrix rings, *Representations and quantizations* (Shanghai, 1998), 199-211, China High. Educ. Press, Beijing, 2000.
13. Centralizers and central idempotents of semigroup rings, *Semigroup Forum*, 62(2001), 41-52.
14. (with K. P. Shum) Morita equivalence for factorisable semigroups, *Acta Math. Sinica*, 17(2001), 437-454.
15. (with K. P. Shum) On Rees split short exact sequences of S-systems, *Semigroup Forum*, 65(2002), 141-148.
16. (with Zhifeng Hao, Yun Fan) Morita equivalence for semigroup rings, *Southeast Asian Bull. Math.*, 26(2002), 747-750.
17. (with Xia Zhang) Modulo lattice and semisimple algebras *Journal of South China Normal University*, (2)(2004), 20-25.

18. (with Xia Zhang) Generalized Goldie dimension of an S-act, *Southeast Asian Bull. Math.*, 29(2005), 31-40.
19. (with Zhifeng Hao, Yun Fan) Ideal lattices of Morita rings and Morita semigroups, *Acta Math. Sinica (New Series)*, 21(2005), 893-898.
20. (with Lili Ni) Annihilator of tensor product of S-acts, *East-West J. Math.*, 6(2005), 51-60.
21. (with K. P. Shum, Zhifeng Hao) Radicals of semilattice-graded rings, *Algebra Colloq.*, 12(2005), 591-596.
22. (with Xia Zhang, Wang Yanming) Chain conditions on essential subacts, *Northeast Math. J.*, 22(3)(2006), 357-369.
23. (with Jianjun Qiu) Groebner-Shirshov basis for free product of algebras and beyond, *Southeast Asian Bull. Math.*, 30(2006), 811-826.
24. (with L. A. Bokut) Groebner-Shirshov bases for Lie algebras: after A.I. Shirshov, *Southeast Asian Bull. Math.*, 31(2007), 1057-1076. arXiv:0804.1254
25. (with Xia Zhang, Ulrich Knauer) Classification of monoids by injectivities I. C-injectivity, *Semigroup Forum*, 76(2008), 169-176.
26. (with Xia Zhang, Ulrich Knauer) Classification of monoids by injectivities II. CC-injectivity, *Semigroup Forum*, 76(2008), 177-184.
27. (with Siu-Hung Ng, K. P. Shum) On radicals of module coalgebras, *Journal of Pure and Applied Algebra*, 212(2008), 157-167. arXiv:0611660
28. (with Zhong Chanyan) Groebner-Shirshov basis for HNN extensions of groups and for the alternative group, *Comm. Algebra*, 36(1)(2008), 94-103. arXiv:0804.0642
29. (with Yong He, K. P. Shum) Projectively condensed semigroups, generalized completely regular semigroups and projective orthomonoids, *Acta Math. Hungar.*, 119(3)(2008), 281-305. DIO: 10.1007/s10474-007-7038-x
30. (with L. A. Bokut) Groebner-Shirshov bases: some new results, *Advances in Algebra and Combinatorics*, World Scientific, 2008, 35-56. arXiv:0804.1344
31. Groebner-Shirshov basis for Schreier extensions of groups, *Comm. Algebra*, 36(5)(2008), 1609-1625. arXiv:0804.0641
32. (with Hongshan Shao, K. P. Shum) On Rosso-Yamane theorem on PBW basis of  $U_q(A_N)$ , *CUBO A Mathematical Journal*, 10(3)(2008), 171-194. arXiv:0804.0954
33. (with Wenshu Chen, Runai Luo) Word problem for Novikov's and Boone's group via Groebner-Shirshov bases, *Southeast Asian Bull. Math.*, 32(5)(2008), 863-877.
34. (with Jianjun Qiu) Groebner-Shirshov basis for the Chinese monoid, *Journal of Algebra and its Applications*, 7(5)(2008), 1-6. arXiv:0804.0972

35. (with L.A. Bokut, Yu Li) Groebner-Shirshov bases for Vinberg-Koszul-Gerstenhaber right-symmetric algebras, *Fundamental and Applied Mathematics*, 14(8)(2008), 55-67. (in Russian) *Journal of Mathematical Sciences*, 166(2010), 603-612. arXiv:0903.0706
36. (with Yongshan Chen, Yu Li) Groebner-Shirshov bases for differential algebras, *Arabian Journal for Science and Engineering*, 34(2A)(2009),135-145. arXiv:0805.2327v2
37. Groebner-Shirshov basis for extensions of algebras, *Algebra Colloq.*, 16(2)(2009), 283-292. arXiv:0804.0643
38. (with L. A. Bokut, Yu Li) Anti-commutative Groebner-Shirshov bases of a free Lie algebra, *Science in China*, 52(1)(2009), *Science in China*, 52(2)(2009), 244-253. arXiv:0804.0914
39. (with L. A. Bokut, Xiangui Zhao) Groebner-Shirshov basis for a free inverse semi-group, *International Journal of Algebra and Computation*, 19(2)(2009), 129-143. arXiv:0804.0959
40. (with Qiuhui Mo) A note on Artin-Markov normal form theorem for braid groups, *Southeast Asian Bull Math*, 33(2009), 403-419. arXiv:0806.0877
41. (with L. A. Bokut, Jianjun Qiu) Groebner-Shirshov bases for associative algebras with multiple operations and free Rota-Baxter algebras, *Journal of Pure and Applied Algebra*, 214(2010), 89-100. arXiv:0805.0640v2
42. (with Yongshan Chen, Chanyan Zhong) Composition-Diamond lemma for modules, *Czech J Math*, 60(135)(2010), 59-76. arXiv:0804.0917
43. (with L.A. Bokut, Yongshan Chen) Composition-Diamond lemma for tensor product of free algebras, *Journal of Algebra*, 323(2010), 2520-2537. arXiv:0804.2115
44. (with Jianjun Qiu) Composition-Diamond lemma for  $\lambda$ -differential associative algebras with multiple operators, *Journal of Algebra and its Applications*, 9(2010), 223-239. arXiv:0904.0836
45. (with L.A. Bokut, Cihua Liu) Groebner-Shirshov bases for dialgebras, *International Journal of Algebra and Computation*, 20(3)(2010), 391-415. arXiv:0804.0638
46. (with Bin Wang) Groebner-Shirshov Bases and Hilbert Series of Free Dendriform Algebras. *Southeast Asian Bull. Math.*, 34(2010), 639-650. arXiv:1009.0185
47. (with L.A. Bokut, Xueming Deng) Groebner-Shirshov bases for Rota-Baxter algebras, *Siberian Mathematical Journal*, 51(6)(2010), 978-988. arXiv:0908.2281
48. (with Jing Li, Mingjun Zeng) Composition-Diamond lemma for non-associative algebras over a polynomial algebra, *Southeast Asian Bull. Math.*, 34(2010), 629-638. arXiv:1009.0196
49. (with L.A. Bokut, Qiuhui Mo) Groebner-Shirshov bases and embeddings of algebras, *International Journal of Algebra and Computation*, 20(2010), 875-900. arXiv:0908.1992

50. (with L.A. Bokut, Yongshan Chen) Groebner-Shirshov bases for Lie algebras over a commutative algebra, *Journal of Algebra*, 337(2011), 82C102. arXiv:1006.3217v3
51. (with Zhong Chanyan) Groebner-Shirshov basis for some one-relator groups, *Algebra Colloq.*, 19(2011), 99-116. arXiv:0804.0643
52. (with Chanyan Zhong) Groebner-Shirshov bases for braid groups in Adyan-Thurston generators, *Algebra Colloq.*, 20(2)(2013), 309-318. arXiv:0909.3639
53. (with Yu Li) An application of non-associative Composition-Diamond lemma, *Czech J Math*, 61 136(2011), 707-720. arXiv:0804.0915
54. (with L. A. Bokut, Guangliang Zhang) Composition-Diamond lemma for associative  $n$ -conformal algebras, arXiv:0903.0892
55. (with Qihui Mo) Embedding dendriform algebra into its universal enveloping Rota-Baxter algebra, *Proc. Amer. Math. Soc.*, 139(2011), 4207-4216. arXiv:1005.2717
56. (with Jiapeng Huang) Groebner-Shirshov bases for L-algebras, *International Journal of Algebra and Computation*, to appear. arXiv:1005.0118
57. (with L.A. Bokut, Yu Li) Groebner-Shirshov bases for categories, *Nankai Series in Pure, Applied Mathematics and Theoretical Physics, Operads and Universal Algebra*, Vol.9(2012), 1-23. arXiv:1101.1563
58. (with Qihui Mo) Groebner-Shirshov bases for free partially commutative Lie algebras, *Comm. Algebra*, 41(2013), 3753-3761. arXiv:1105.4796
59. (with Yongshan Chen) Groebner-Shirshov bases for matabelian Lie algebras, *Journal of Algebra*, 358(2012), 143-161. arXiv:1106.2362
60. (with L.A. Bokut, K.P. Shum) Some new results on Groebner-Shirshov bases, in: *Proceedings of International Conference on Algebra 2010, Advances in Algebraic Structures*, 2012, pp.53-102. arXiv:1102.0449
61. (with L.A. Bokut, Yu Li) Lyndon-Shirshov basis and anti-commutative algebras, *Journal of Algebra*, 378(2013), 173-183. arXiv:1110.1264
62. (with L.A. Bokut, Qihui Mo) Gröbner-Shirshov bases for semirings, *Journal of Algebra*, 385(2013), 47-63. arXiv:1208.0538
63. (with L.A. Bokut) Gröbner-Shirshov bases and their calculation, *Bull. Math. Sci.*, 4(2014), 325-395. arXiv:1303.5366
64. (with Yu Li, Qingyan Tang) Gröbner-Shirshov bases for some Lie algebras, *Siberian Mathematical Journal*, 58(1)(2017), 176-182. arXiv:1305.4546
65. (with L.A. Bokut, Weiping Chen, Jing Li) New approaches to plactic monoid via via Groebner-Shirshov bases, *Journal of Algebra*, 423(2015), 301-317. arXiv:1106.4753.
66. (with L.A. Bokut) Gröbner-Shirshov bases for universal algebra, *Journal of SCNU*, 46(6)(2014), 1-9.

67. (with L.A. Bokut) Gröbner-Shirshov Bases and Shirshov Algorithm, Educational tutorial lecture notes, Novosibirsk State University, 2014
68. (with L.A. Bokut) Gröbner-Shirshov and PBW theorems, Journal of Siberian Federal University, Mathematics and Physics, 6(4)(2013), 417-427.
69. (with L.A. Bokut and Zerui Zhang) Gröbner-Shirshov bases method for Gelfand-Dorfman-Novikov algebras, Journal of Algebra and its Applications, 1750001-1–1750001-22. arXiv:1506.03466
70. with Lili Ni A new Composition-Diamond lemma for associative conformal algebras, Journal of Algebra and its Applications, 1750094-1–1750094-28. arXiv:1602.03554
71. (with Jianjun Qiu) Gröbner-Shirshov bases for Lie  $\Omega$ -algebras and free Rota-Baxter Lie algebras, Journal of Algebra and its Applications, 1750190-1–1750190-21. arXiv:1604.06675
72. (with Jianjun Qiu) Free Lie differential Rota-Baxter algebras and Gröbner-Shirshov bases, International Journal of Algebra and Computation, 27(8)(2017) 1041-1060. DOI: 10.1142/S0218196717500485
73. (with Haibin Wu and Honglian Xie) Automaticity of one-relator semigroups with length less than or equal to three, Mathematics in Computer Science, 11(1)(2017), 7-33. arXiv:1702.03355
74. (with Guangliang Zhang) A new Composition-Diamond lemma for dialgebras, Algebra Colloquium, 24(1)(2017), 323-350. arXiv:1702.00119
75. (with Zerui Zhang) On formulas and some combinatorial properties of Schubert Polynomials, Algebra Colloquium, 24(4)(2017), 647-672. arXiv:1705.08069
76. (with L.A. Bokut and Zerui Zhang) On free Gelfand-Dorfman-Novikov-Poisson algebras and a PBW theorem, Journal of Algebra, 500(2018), 153-170. arXiv:1604.06676
77. (with Jianjun Qiu) Extensions of associative and Lie algebras via Gröbner-Shirshov bases method, submitted. arXiv:1603.01454
78. (with Ilias Kotsireas and Zhenwei Zhai) 27, 28 and 29 are not a complex Golay numbers, submitted.
79. (with Guangliang Zhang) A construction of free digroup, submitted. arXiv:1804.10409
80. (with Guangliang Zhang) Gröbner-Shirshov bases for commutative dialgebras, submitted.