

Curriculum Vitae

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Education

- Ph.D (1976), The State University of New York at Stony Brook
- M.A. (1974), The State University of New York at Stony Brook

Positions

- Professor, Department of Mathematical Science, Tsinghua University, (2011-)
- Emeritus Distinguished Professor of University of Illinois at Chicago (2011-)
- Distinguished Professor of University of Illinois at Chicago (2005-2011)
- Professor, Department of Mathematics, Statistics and Computer Science, University of Illinois at Chicago (1984-2005)
- Professor, Department of Electrical and Computer Engineering, University of Illinois at Chicago (2002-2011)
- Director, Laboratory of Control and Information (1993-)
- Director, Institute of Mathematics, East China Normal University (2002-2011)
- Zi-Jiang Professor, East China Normal University (2002-2011)
- Visiting Professor, Harvard University (Winter 1999)
- Visiting Professor, University of Pisa, Italy (Spring 1990)
- Visiting Professor, Johns Hopkins University (1989 - 90)
- University Scholar, University of Illinois at Chicago (1987 -90)
- Visiting Professor, Institute Mittag-Leffler, Sweden (Winter 1987)
- Visiting Professor, Yale University (1984-85)
- Visiting Associate Professor, University of Southern California (1983-84)
- Member, The Institute for Advanced Study (1981-82)
- Visiting Research Mathematician, Princeton University (Spring 1981)
- Associate Professor, University of Illinois at Chicago (1980-84)
- Alfred P.Sloan Research Fellow (1980-82)
- Benjamin Pierce Assistant Professor, Harvard University (1977-80)
- Member, The Institute for Advanced Study (1976-77)

Prizes and Awards

- University Distinguished Professor, University of Illinois at Chicago (2005-)
- IEEE Fellow 2003
- Guggenheim Fellowship, 2000-2001
- University Scholar, University of Illinois at Chicago (1987-90)
- Alfred P.Sloan Research Fellowship (1980-82)
- Biographical note in American Men And Women of Science
- Biographical note in Who's Who in America
- Biographical note in Who's Who in Science and Engineering
- Biographical note in Who's Who in the Midwest
- Biographical note in Who's Who in American Education
- Biographical note in Who's Who among Asian Americans
- Biographical note in Who's Who in Sciences Higher Education

Membership

- Fellow of the Institute of Electrical and Electronic Engineers
- Member of Society for Industrial and Applied Mathematics
- Member of American Mathematical Society

Grants

- Army Research Office (1989-2005)
- National Science Foundation (1976-88, 1989-2003, 2005-20011)
- National Science Foundation Special Year Grant (1987-88)

- National Security Agency (2002-2005, 2005-2007)
- Research Board, University of Illinois at Chicago (1987, 1984, 1983, 1981)
- The Clark and the Topier Fund, Harvard University (1977-80)

Honors

- Open Invitation to spend 1984-86 as a Research Professor at Sonderforschungsbereich "Theoretische Mathematik", University of Bonn, Germany
- Invited one-hour address at the AMS Meeting, Worcester, Massachusetts, April 1985
- Invited one-hour address at the Swedish Mathematical Society Meeting, Linkoping, January 1987
- Invited to visit one week and give a colloquium lecture at Aarhus University, Denmark, February 1987
- Invitation to spend a month at Fudan University, Shanghai, People's Republic of China to give a series of lectures, November and December 1987
- Invitation to spend one week at the Institute of Mathematics, Academia Sinica, Beijing, People's Republic of China to give several lectures, December 1987
- Invitation to spend eight weeks at the University of Pisa, Italy to give a series of lectures, January - February 1990
- Invitation to spend 9 days at Global Analysis Research Center, Seoul National University, Korea to give a series of lectures, February 1992
- Invitation to spend one month at Nanjing University, People's Republic of China to give a series of lectures, May 1993
- Invitation to spend one month at National Taiwan University, Republic of China to give a series of lectures, May 1994

- C.M. Cha Fellow from Hong Kong Baptist University May-July, 1995
 - Invitation to spend two months at Hong Kong Baptist University to give a series of lectures, May-July, 1997
 - Invitation to spend two months as Visiting Professor at the University of Science and Technology of Hong Kong to give a series of lectures, 1997.
 - Invitation to give 5 two-hours Distinguished Lecture Series on Control Theory, Special Year on Control Theory, October 1997, Morningside Institute, Academia Sinica, China.
 - Invitation to spend two months as Visiting Professor at the Chinese University of Hong Kong to give a series of lectures, 1998.
 - Invited 45 minutes speaker at International Congress of Chinese Mathematicians, Beijing, China, 1998.
 - Zi-Jiang Professor, East China Normal University, May-June, 2002-2003.
 - Director of Institute of Mathematics, East China Normal University, (2002-).
 - Invited 45 minutes speaker at International Congress of Chinese Mathematicians, Hong Kong, December, 2004.
 - Invited 45 minutes speaker at International Congress of Chinese Mathematicians, Hangzhou, December, 2007.
 - Invited Distinguished lecture at Centennial Expert's Forum of Lanzhou University, May, 2010
 - Invited 45 minutes speaker at International Congress of Chinese Mathematicians, Beijing, December, 2010.
 - Visiting Distinguished Professor, Center for Advanced Study, Warsaw University of Technology, May, 2011.
 - Invitation to spend two and half months as Visiting Professor at the Hong Kong University of Science and Technology to give a lecture and conduct research project, June-August, 2011.
 - Invitation to visit Australia National University to give a colloquium talk, Oct. 2011.
 - Colloquium talk at the Institute of Mathematics, Chinese Academy of Science, Beijing. Mar. 2012.
 - Colloquium talk at the Institute of Mathematics, Chinese Academy of Science, Taipei. Mar. 2012.
 - Invited speaker, Mini-workshop of Algebra, Taida Institute of Mathematical Science, National Taiwan University. Mar. 2012.
 - Invited speaker, East Asia Mini-Wokshop on CR Geometry, Institute of Mathematics, Chinese Academy of Science, Taipei. Mar. 2012.
- Ph.D Student Supervision**
- Yung Yu (1988)
 - Craig Seeley (1988)
 - Yi-Jing Xu (1990)
 - Wen-Lin Chiou (1991)
 - Chi-Wah Leung (1993)
 - Tan Jiang (1993)
 - Li-Xing Jia (1994)
 - Jie Chen (1994)
 - Amid Rasoulian (1995)
 - Hon-Wing Cheng (1996)
 - Qing-Long Zhang (1996)
 - Guo-Qing Hu (1997)
 - Zhi-Gang Liang (1998)
 - Ke-Pao Lin (1999)

- Xi Wu (2000)
- Zhe Li (2002)
- Xue-Jun Wang (2002)
- Shao-Bo Wang (2002)
- Junfeng Ding (2005)
- Changchuan Yin (2005)
- Libin Liu (2005)
- Dongchul Yoo (2005)
- Jiuhong Tang (2005)
- Dongmin Cai (2006)
- Ling Zhou (2007)
- Peng He (2007)
- Chaoxiao Lu (2008)
- Rong Du (2009)
- Weitian Zang (2009)
- Qian Liang (2010)
- Bo Zhao (2010)
- Chenglong Yu (2010)
- Mo Deng (2011)
- Fei Ye (2011)
- Eb Armah (2011)
- Executive Committee, International Congress of Chinese Mathematicians, Beijing, China Dec. 2010.
- Program Committee, International Conference on Complex Analysis and Related topics, Beijing China, August, 2009.
- Guest Editor, Special issues of Asian Journal of Math., 2003, 2007, 2011.
- Scientific committee, International Congress of Chinese Mathematicians, Hangzhou, China, Dec. 2007.
- Coorganizer, AMS special session on Analysis and CR Geometry, De Paul University, Chicago, Oct. 2007.
- Scientific Committee, International Conference on Several Complex Variables, Beijing, China, July, 2006.
- Organizer, International Conference on Several Complex Variables, University of Science and Technology, Hefei, China, June, 2005.
- Scientific Committee Member, International Congress of Chinese Mathematicians, Hong Kong, December, 2004.
- Organizer, International Conference on Complex Geometry and Related Topics, East China Normal University, Shanghai, China, June, 2004.
- Coorganizer, AMS special session "iterated function systems and analysis on fractals", Evanston, Illinois, Oct. 23-24, 2004
- Organizer, NSF US-Hong Kong Conference on Recent Developments in Several Complex Variables, Cauchy Riemann Geometry and Complex Algebraic Geometry, Nov. 2003.
- Chair of the technical session of "Soft Computing II", IEEE International Symposium on Intelligent Control, Houston, TX, Oct. 2003.
- Chair of the technical session of "Robust and Nonlinear Filtering" at American Control Conference, Denver, CO, June 2003.

Selected Professional Activities

- Managing Editor and Founder, Journal of Algebraic Geometry (1991-).
- Editors-in-Chief and Founder, Communications in Information and Systems (2000-).
- Guest Editor, Special issues of Science in China, Series A: Mathematics, 2006, 2010.

- International Advisory Committee of the Satellite Conference of ICM 2002 on Control and Optimization, Xian, China.
 - Executive Committee, International Congress of Chinese Mathematicians, Taipei, Taiwan, December, 2001.
 - Organizing Committee of International Conference on Singularities and Applications, Beijing, July, 2001.
 - Organizing Committee Member, International Workshop on Complex Analysis and Geometry, Chinese University of Hong Kong, May, 2000
 - Chair of the technical session of "Nonlinear Control and Stabilization" at the IEEE CDC, Sydney, Australia, December, 2000.
 - Cochair of the technical session of "Estimation and Filtering" at American Control Conference, Chicago, IL, June, 2000.
 - Organizer, Minisymposium on CR Geometry, The Chinese University of Hong Kong, May, 1999
 - Chair of the Technical Session at the IEEE Conference of Decision and Control, "Nonlinear Filtering II", San Diego, CA 1997, Tampa, FL, 1998
 - Scientific Member, International Congress of Chinese Mathematicians, Beijing, December, 1998.
 - Organizer, International Workshop on CR Manifolds, The Chinese University of Hong Kong, May, 1997
 - General Chairman, IEEE International Conference on Control and Information, The Chinese University of Hong Kong, June, 1995
 - Coorganizer, International Conference on Singularities and Complex Geometry, Beijing, China, June 1994
 - Coorganizer, Wavelets and Large-Scale Image Processing, Chicago, Oct. 1994
 - Coorganizer, Wavelets and their applications in PDE, a minisymposium during SIAM Annual Meeting, San Diego, CA, July 25-29, 1994
 - Organizer, Minisymposium on wavelets at the Third SIAM Conference on Linear Algebra in Signals, Systems and Control, University of Washington, Seattle, August, 1993
 - Organizer, Wavelets and its application at IEEE Regional Conference on Aerospace Control Systems, Rockwell Science Center, Thousand, CA, May 1993
 - Co-organizer, Emerging Computational Advances in Systems and Control 31st IEEE Conference on Decision and Control, Tucson, Arizona, December 1992
 - Organizer, Midwest Algebraic Geometry Conference at the University of Illinois at Chicago, March 1988
 - Organizer, National Science Foundation Special Year Algebraic Cycles Conference at the University of Illinois at Chicago, March 1988
 - AMS Special Session Chairman on Singularities and Complex Geometry, Worcester, Massachusetts, April 1985
 - AMS Special Session Chairman on Differential Geometry of Submanifolds, Worcester, Massachusetts, April 1985
- List of Publications**
1. Two theorems on higher dimensional singularities, *Math. Ann.* 231 (1977), 55 -59.
 2. On almost minimally elliptic singularities, *Bull. Amer. Math. Soc.* 83 (1977), 362-364.
 3. The signature of smoothing of higher dimensional singularities, *Bull. Amer. Math. Soc.* 83 (1977), 1313-1315.
 4. Normal singularities of surfaces, *Proceedings of Symposia in Pure Mathematics* 32 (1978), 195-198.

5. The signature of Milnor Fibers and duality theorems for strongly pseudoconvex manifolds, *Invent. Math.* 46 (1978), 81-97.
6. Hypersurface weighted dual graphs of normal singularities of surfaces, *Amer. J. Math.* 101 (1979), 761-812.
7. Gorenstein singularities with geometric genus equal to two, *Amer. J. Math.* 101 (1979), 813-854.
8. On strongly elliptic singularities, *Amer. J. Math.* 101 (1979), 855-884.
9. Normal two-dimensional elliptic singularities, *Trans. Amer. Math. Soc.* 254 (1979), 117-134.
10. On maximally elliptic singularities, *Trans. Amer. Math. Soc.* 257 (1980), 269-329.
11. Index theory for the boundaries of complex analytic varieties, *Proc. Nat. Acad. Sci. U.S.A.* 77 (1980), 1248-1249.
12. Deformations and equitopological deformations of strongly pseudoconvex manifolds, *Nagoya Math. J.* 82 (1981), 113-192.
13. Kohn-Rossi cohomology and its application to the complex Plateau problem I, *Ann. of Math.* 113 (1981) 67-110.
14. Sheaf cohomology on 1-convex manifolds, *Recent Developments in Several Complex Variables*, *Ann. of Math. Study.* 100 (1981), 429-452.
15. Existence of L²-integrable holomorphic forms and lower estimates of T_{1V}, *Duke Math. J.* 48 (1981), 537-547.
16. Criterion for biholomorphic equivalence of isolated hypersurface singularities, (with John Mather), *Proc. Nat. Acad. Sci., U.S.A.* 78 (1981), 5946-5947.
17. Milnor number and classification of isolated singularities of holomorphic maps, (with Bruce Bennett), *Lecture Notes in Mathematics* 949, Springer-Verlag (1982), 1-34.
18. s^{n-1} invariant for isolated n-dimensional singularities and its application to moduli problems, *Amer. J. Math.* 104 (1982), 829-841.
19. Classification of isolated hypersurface singularities by their moduli algebras, (with John Mather), *Invent. Math.* 69 (1982), 243-251.
20. Various numerical invariants for isolated singularities, *Amer. J. Math.* 104 (1982), 1063-1100.
21. On irregularity and geometric genus of isolated singularities, *Proc. Symp. Pure Math.* 40, Part 2 (1983), 653-662.
22. Milnor algebras and equivalent relations among holomorphic functions, *Bull. Amer. Math. Soc.* 9 (1983), 235-239.
23. Continuous family of finite dimensional representations of a solvable Lie algebra arising from singularities, *Proc. Nat. Acad. Sci. U.S.A.* 80 (1983), 7694-7696.
24. Criteria for right-left equivalence and right equivalence of holomorphic functions with isolated critical points, *Complex Analysis Several Complex Variables*, *Proc. Symp. Pure Math.* 41 (1984), 291-297.
25. Riemann-Roch theorem for strongly pseudoconvex manifolds of dimension three, (with Paul Yang), *Several Complex Variables*, *Proc. of the 1981 Hangzhou Conf.*, Birkhauser, Boston, (1984), 257-267.
26. An estimate of the gap of the first two eigenvalues in the Schrodinger operator, (with I.M. Singer, Bun Wong and Shing-Tung Yau), *Ann. Scuola Norm. Sup., Pisa, Classe di Scienze, Serie IV*, Vol. XII, N.2 (1985), 319-333.
27. Solvable Lie algebras and generalized Cartan Matrix arising from isolated singularities, *Math. Z.* 191 (1986), 489-506.
28. Singularities defined by $\mathfrak{sl}(2, \mathbb{C})$ invariant polynomials and solvability of Lie algebras arising from isolated singularities, *Amer. J. Math.* 108 (1986), 1215-1240.

29. Lie algebras and their representations arising from isolated singularities: Computer method in calculating the Lie algebra and their cohomology, (with Max Benson), *Adv. Stud. Pure Math.* 8, *Complex Analytic Singularities* (1986), 3-58.
30. A necessary and sufficient condition for a local commutative algebra to be a moduli algebra: weighted homogeneous case, *Adv. Stud. Pure Math.* 8, *Complex Analytic Singularities* (1986), 687-697.
31. Some surfaces covered by the ball and a problem in finite groups, (with G.D. Mostow), *Lecture Notes in Math.* Vol. 1271, Springer-Verlag, *Proc. of a Symposium in Honor of T.A. Springer*, (1987), 201-228.
32. Holomorphic symmetry, (with Blaine Lawson), *Ann. Sci. École Norm. Sup.* 4e series, t. 20 (1987), 557-577
33. Classification of Jacobian ideals invariant by $sl(2, \mathbb{C})$ actions, *Mem. Amer. Math. Soc.* 72 (1988), 1-180.
34. Topological types and multiplicities of isolated quasi-homogeneous surface singularities, *Bull. Amer. Soc.* 19 (1988), 447-454.
35. The inequality $\mu \geq 12pg - 4$ for weakly elliptic hypersurface singularities, (with Yi-Jing Xu), *Contemp. Math.* 90 (1989), 317-344.
36. Topological types of isolated hypersurface singularities, *Contemp. Math.* 101 (1989), 303-321.
37. Classification of topological types of isolated quasi-homogeneous two-dimensional hypersurface singularities, (with Yi-Jing Xu), *Manuscripta Math.* 64 (1989), 445-469.
38. Multiplicity of isolated two-dimensional hypersurface singularities: Zariski problem, *Amer. J. Math.* 111 (1989), 753-767.
39. Recent results on finite dimensional exact estimation algebra, (with L.F. Tam and W.S. Wong), *Proceedings of the 28th Conf. on Decision and Control at Tampa, Florida, Dec. (1989)*, 2574-2575.
40. On a necessary and sufficient condition for finite dimensionality of estimation algebras, (with L.F. Tam and W.S. Wong), *SIAM J. Control Optim.* 28 (1990), 173-185.
41. Variations of complex structures and variation of Lie algebras, (with Craig Seeley), *Invent. Math.* 99 (1990), 545-565.
42. Equivalence between isolated hypersurface singularities, (with Max Benson), *Math. Ann.* 287 (1990), 107-134.
43. An obstruction for smoothing of Gorenstein surface singularities, (with A. Libgober), *Comment. Math. Helv.* 65 (1990), 413-433.
44. Recent results on nonlinear filtering: New class of finite dimensional filters, *Proceedings of the 29th Conf. on Decision and Control at Honolulu, Hawaii, Dec. (1990)*, 231-233.
45. A remark on moduli of complex hypersurface, *Amer. J. Math.*, 113 (1990), 287-292.
46. Structure and classification theorems of finite-dimensional exact estimation algebras (with R.T. Dong, L.F. Tam and W.S. Wong), *SIAM J. Control Optim.*, Vol 29, No.4 (1991), 866-877.
47. Obstructions to embedding of real compact $(2n-1)$ -dimensional CR-manifold in C^{n+1} , (with H.S. Luk), *Proceedings of Symposia in Pure Mathematics* Vol. 52 (1991), Part 3, 261-276.
48. Regularity for Harvey-Lawson's solution to complex Plateau problem, *J. Differential Geom.*, 34 (1991) 425-429.
49. Solvability of the Lie algebras arising from singularities and non-isolatedness of the singularities defined by the invariant polynomials of $sl(2, \mathbb{C})$, *Amer. J. Math.* 113 (1991), 773-778.

50. Algebraic methods in the study of simple-elliptic singularities, (with Craig Seeley), US-USSR Algebraic Geometry Symposium, Springer-Verlag, Lecture Notes in Mathematics 1479 (1991), 216-237.
51. Recent results on classification of finite dimensional estimation algebras: Dimension of state space equal to 2, (with Wen-Lin Chiou), Proceedings of the 30th Conf. on Decision and Control, Brighton, England, Dec. 11-13 (1991), 2758-2760.
52. Topological types of seven classes of isolated singularities with C^* -action, (with Yi-Jing Xu), Rocky Mountain J. Math., Vol 22, (1992) 1147-1215.
53. Classification of gradient space as $sl(2, C)$ -module I (with J. Sampson and Yung Yu), Amer. J. Math. 114 (1992), 1147-1161.
54. Sharp estimate of number of integral points in tetrahedron, (with Yi-Jing Xu), Journal fur die reine und angewandte Mathematik 423 (1992), 199-219.
55. Recent result on classification of finite dimensional maximal rank estimation algebras with state space dimension 3 (with Chi-Wah Leung), Proceedings of the 31st Conference on Decision and Control, Tucson, Arizona, Dec. (1992), 2247-2250.
56. Explicit fundamental solution to Kolmogorov equation (with S.T. Yau), Proceedings of the 31st Conference on Decision and Control, Tucson, Arizona, Dec. (1992), 1508-1511.
57. Classification of finite dimensional filters from Lie algebraic point of view, Transaction of the Ninth Army Conference on Applied Mathematics and Computing, (1992), 459-466.
58. Complex Hypersurface Singularities with Application in Complex Geometry, Algebraic Geometry and Lie Algebra, Lecture Notes Series Number 5, 1992, Research Institute of Mathematics, Global Analysis Research Center, Seoul National University, Seoul Korea.
59. Durfee conjecture and coordinate free characterization of homogeneous singularities, (with Yi-Jing Xu), Journal of Differential Geometry 37 (1993), 375-396.
60. Gorenstein quotient singularities in dimension three, (with Yung Yu), Mem. Amer. Math. Soc. Vol. 105 (1993), 1-88.
61. Topological and differentiable structures of the complement of an arrangement of hyperplanes, (with Tan Jiang) Proceedings of Symposia in Pure Mathematics, Vol. 54 (1993), part 2, 337-357.
62. Topological invariance of intersection lattices of arrangements in CP^2 (with Tan Jiang), Bulletin A.M.S. Vol. 39, No. 1 (1993) 88-93.
63. Cohomology and Splitting Criterion for holomorphic vector bundles on CP^n (with Hing-Sun Luk) Math. Nachrichten 161 (1993), 223-238.
64. Finite dimensional estimation algebras of maximal rank with dimension of state space equal to 3 (with Jie Chen and Chi-Wah Leung), Tenth Army Conference on Applied Mathematics and Computing, (1993), 337-344.
65. Finite dimensional estimation algebras of maximal rank with dimension of state space equal to 4 (with Jie Chen and Chi-Wah Leung) European Control Conference, Groningen, The Netherlands, June 28-July 1, (1993), 2126-2130.
66. Some remarks on wavelet transforms (with Tomasz Bielecki, Jie Chen, E. Bing Lin). IEEE Proceeding of the first Regional Conference on Aerospace Control Systems, May 25-27, (1993), 148-150.
67. Explicit construction of finite dimensional nonlinear filters with state space dimension 2, (with Wen-Lin Chiou), Proceedings of the 32nd Conference on Decision and Control, San Antonio, Texas, Dec. (1993), 710-713.

68. The classification of low dimensional estimation algebras (with Jie chen and Chi-wah Leung). Proceedings of 32nd Conference on Decision and Control, San Antonio, Texas, Dec. (1993), 732-734.
69. Wavelet and Wavelet Stieltjes transforms (with T. Bielecki, J. Chen and E. Lin) Proceedings of the 32nd Conference on Decision and Control, San Antonio, Texas, Dec. (1993), 3062-3063.
70. Some PDE problem: from estimation algebras (with Rui-Tao Dong, W. S. Wong), Proceedings on Aerospace control systems, The first IEEE Regional conference, (1993), May 25-27, 143-147.
71. Finite dimensional filters with non-linear drifts I: A class of filters containing both Kalman filters and Benes filters, J. of Math. Systems, Estimation and Control., Vol. 4, (1994), pp.181-203.
72. Finite dimensional filters with nonlinear drift II: Brockett's problem on classification of finite dimensional estimation algebra (with Wen-Lin Chiou), SIAM J. Control and Optimization, vol.32, No.1 (1994) 297-310.
73. Diffeomorphic type of the complement of arrangement of hyperplanes, (with Tan Jiang) *Composito Math*, 92, (1994) 133-155.
74. Explicit formal solution to generalized Kolmogorov equation (with Shing Tung Yau), Eleventh Army Conference on Applied Mathematics and Computing, (1994), 373-386
75. Algebraic classification and obstructions of embedding of compact 3 dimensional CR manifolds in C^{n+1} . (with Hing Sun Luk and Yung Yu) , *Math. Nachrichten* 170 (1994), 183-200.
76. Computing the exponential of matrices, (with Hon Wing Cheng) Proceedings of the American Control Conference, Baltimore, Maryland. June, (1994), 3543-3547.
77. New direct method for Kalman-Bucy filtering system with arbitrary initial condition, (with S.T. Yau) Proceedings of the 33rd IEEE conference on Decision and Control, Lake Buena Vista, Florida, Dec. 14-16,(1994), 1221-1225.
78. Random Wavelet Transformation and its Properties, SPIE Proceedings on Wavelet Applications in Signal and Image Processing II, Andrew Laine and Michael Unser, eds, Vol. 2303 July, (1994), 345-353 (with Tomasz R. Bielecki and Jie Chen).
79. Non-existence of negatively graded derivation of weighted homogeneous moduli algebra (with Hao Chen and Yi-Jing Xu), *Journal of Algebra*, 172, (1995), 243-254.
80. Applying wavelet to Kolmogorov equation, (with Zhigang Liang) Proceeding of International Conference on Control and Information, (1995), 271-276.
81. A report on explicit formulas for $\exp(tA)$, (with Hon-wing Cheng) Proceeding of International Conference on Control and Information, (1995), 69-75.
82. Recent results on classification of 4-dimensional estimation algebras (with Amid Rasoulia) Proceeding of International Conference on Control and Information, (1995), 371-374.
83. Random wavelet transform, algebraic geometric coding and their applications in compression and de-noising of signals, (with Tomasz Bielecki; Man K. Kwong; Li M. Song) Proceeding of International Conference on Control and Information, (1995), 283-289.
84. Explicit construction of finite dimensional nonlinear filters with state space dimension 3, (with Jie Chen and Chi-Wah Leung) Proceedings of the 34th IEEE Conference on Decision and Control, New Orleans, Louisiana, Dec. 13-15, (1995), 4030-4034.
85. Construction of new finite dimensional nonlinear filters, (with Amid Rasoulia) Proceedings of the 34th IEEE Conference on Decision and

- Control, New Orleans, Louisiana, Dec. 13-15, (1995), 4002-4005.
86. Invariants of Strongly Pseudoconvex CR manifolds (with Hing-Sun Luk), *Five Decades as a Mathematician and Educator, On the 80th Birthday of Professor Yung-Chow Wong*, World Scientific, (1995), 279-305.
 87. Invariant Kohn-Rossi cohomology and obstruction to embedding of compact real $(2n-1)$ -dimensional CR manifolds in C^N , (with H.-S.Luk), *Journal of the Mathematical Society of Japan*, Vol. 48, (1996), 61-68.
 88. Finite dimensional filters with nonlinear drift IV: classification of finite dimensional maximal rank estimation algebra with dimension of state space equal to 3, (with Jie Chen, Chi-Wah Leung), *SIAM J. Control and Optimization*, Vol. 34, No.1 (1996). 179-198.
 89. Direct method without Riccati equation for Kalman-Bucy filtering system with arbitrary initial condition, (with Guo-Qing Hu), *13th World Congress IFAC, San Francisco, June 30-July 5, Volume H*, (1996), 469-474.
 90. Microlocal characterization of quasihomogeneous singularities (with Yijing Xu), *Amer. J. Math*, 118, (1996), 387-399.
 91. Iconic indexing and maintenance of spatial relationships in image databases, (with Qing-Long Zhang and Shi-Kuo Chang), *Conference on Multimedia Storage and Archiving Systems, SPIE's Photonics East 96 Symposium, Boston, MA, Nov. 18-22, 1996*.
 92. Explicit solution of a Kolmogorov equation (with S.T.Yau), *Applied Mathematics and Optimization, An International Journal*, 34, (1996), 231-266.
 93. A unified approach to indexing images in image databases, (with Qing-Long Zhang and Shi-Kuo Chang), *Proceedings of First International Workshop on Image Databases and Multi-Media Search*, Amsterdam, The Netherlands, August 22-23, 1996, 99-106.
 94. A sharp estimate of the number of integral points in a 4-dimensional tetrahedron (with Yi-Jing Xu), *Journal für die reine und angewandte Mathematik*, 473 (1996), 1-23.
 95. The Structure of Ω -matrix in nonlinear filters (with Amid Rasoulian), *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan (1996)*, 1083-1087.
 96. Parallel ODE-solvers for Kalman-Bucy Filter with Arbitrary Initial Condition (with Ho-Wing Cheng), *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan (1996)*, 4138-4145.
 97. New direct method for Yau filtering system with arbitrary initial conditions (with Guo-Qing Hu), *Proceedings of the 35th Conference on Decision and Control, Kobe, Japan (1996)*, 2539-2544.
 98. A unified approach to iconic indexing, retrieval and maintenance of spatial relationships in image databases, (with Qing-Long Zhang and Shi-Kuo Chang), *Journal of Visual Communication and Image Representation Vol. 7, No. 4 (Special Issue)*, Dec. (1996), 307-324.
 99. Finite dimensional filters with nonlinear drift VI: Linear structure of Ω matrix, (with Jie Chen), *Mathematics of Control, Signals and Systems*, 9(1996), 370-385.
 100. Complete Algebraic CR Invariants of codimension 3 strongly pseudoconvex CR manifolds (with Hing Sun Luk), *Studies in Advanced Mathematics Vol. 5, Singularities and Complex Geometry*, AMS/IP, (1997), 175-182.
 101. Complement of arrangement of hyperplanes (with Tan Jiang), *Studies in Advanced Mathematics Vol. 5, Singularities and Complex Geometry*, AMS/IP, (1997), 93-104.
 102. Finite dimensional filters with nonlinear drift III: Duncan-Mortenson-Zakai equation with arbitrary initial condition for Kalman-Bucy filtering

- system and Benes filtering system (with Shing Tung Yau), IEEE Transactions on Aerospace and Electronic Systems, Vol. 33, No. 4, Oct. (1997), 1277-1294.
103. More explicit formulas for the matrix exponential (with Hon Wing Cheng), Linear Algebra and Application, vol 262, (1997), 131-163.
 104. Finite dimensional filter with nonlinear drift V: Solution to Kolmogorov equation arising from linear filtering with non Gaussian initial condition (with Zhigang Liang, and Shing -Tung Yau), IEEE Transactions on Aerospace and Electronic Systems, Vol. 33, No. 4, Oct. (1997), 1295-1308.
 105. Finite dimensional filters with nonlinear drift VII: Mitter conjecture and structure of η (with Jie Chen), SIAM J. Control and Optimization, Vol. 35, No. 4, July (1997), 1116-1131.
 106. Finite dimensional filters with nonlinear drift VIII: Classification of finite dimensional estimation algebra of maximal rank with state space dimension 4 (with Jie Chen and Chi-Wah Leung), SIAM J. Control and Optimization, Vol. 35, No. 4, July (1997), 1132-1141.
 107. Finite dimensional filters with non-linear drift IX: construction of finite dimensional estimation algebra of non-maximal rank (with Amid Rasoulion), Systems Control Letters, 30(1997), 109-118.
 108. Contribution to Munuera's Problem on the Main Conjecture of Geometric Hyperelliptic MDS Codes (with Hao Chen), IEEE Trans. Inform. Theory, Vol. 43, No. 4, (1997), 1349-1354.
 109. A new iconic indexing for 2D and 3D scenes (with Qing-Long Zhang), Proceeding of the Second Chinese World Congress on Intelligent Control and Intelligent Automation (CWCICIA 97), Xian, June 23-27, 1997, 1667-1672.
 110. Explicit solution of DMZ equation (with Guo-Qing Hu), Proceedings of the 36th IEEE Conference on Decision and Control, San Diego, California, Dec.(1997), 4455-4459.
 111. Explicit construction of finite-dimensional nonlinear filters with state space dimension 4 (with Chi-Wah Leung, Jie Chen), Proceedings of the 36th IEEE Conference on Decision and Control, San Diego, California, Dec.(1997), 4462-4466.
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