

# CURRICULUM VITAE

## MING-CHANG KANG

### PERSONAL DATA

Ming-chang Kang

Born: April 20, 1948, Taiwan.

### EDUCATION

<u>Institution</u>	<u>Degree</u>	<u>Date Awarded</u>
National Taiwan University	B.S.	June 1971
The University of Chicago	M.S.	June 1974
The University of Chicago	Ph.D.	June 1977

### PROFESSIONAL EXPERIENCE

<u>Institution</u>	<u>Rank</u>	<u>Dates</u>
National Taiwan University	Associate Professor	1977–1981
National Taiwan University	Professor	1981–Present
National Taiwan University	Chairman, Department of Mathematics	1987–1990
National Taiwan University	Dean, College of Science	1997–2002

### Ph. D. Dissertation

“Projective modules and Picard groups”, The University of Chicago, June, 1977.

Advisor: Prof. Madam Pavaman Murthy.

## Publication Lists

1. Picard groups of some rings of invariants, *Journal of Algebra* 58 (1979), 455–461.
2. Projective modules over some polynomial rings, *Journal of Algebra* 59 (1979), 65–76.
3. Projective modules over some rings of invariants, *Chinese Journal of Mathematics* 8 (1980), 77–83.
4. A note on projective modules over Laurent polynomials, *Chinese Journal of Mathematics* 9 (1981), 75–79.
5. (with Shi-shyr Roan) A note on cancellation problem, *Chinese Journal of Mathematics* 11 (1983), 319–325.
6. Projective modules over polynomial rings, *Chinese Journal of Mathematics* 12 (1984), 71–76.
7.  $p$ -algebras of an algebraic function field over a perfect field, *Journal of Algebra* 103 (1986), 320–322.
8. The biregular cancellation problem, *Journal of Pure and Applied Algebra* 45 (1987), 241–253.
9. The cancellation problem, *Journal of Pure and Applied Algebra* 47 (1987), 165–171.
10. (with Huah Chu and Eng-Tjioe Tan) The corestriction of  $p$ -symbols, *Communications in Algebra* 16 (1988), 735–742.
11. Metacyclic  $p$ -algebras, *Proc. Amer. Math. Soc.* 104 (1988), 697–698.
12. (with Huah Chu and Eng-Tjioe Tan)  $PGL_n$ -actions on  $F_q(x_1, \dots, x_{n-1})$ , *Bull. Australian Math. Soc.* 39 (1989), 107–117.
13. Constructions of Brauer-Severi varieties and norm hypersurfaces, *Canadian Journal of Math.* 42 (1990), 230–238.
14. On Abhyankar-Moh's epimorphism theorem, *American J. Math.* 113 (1991), 399–421.

15. A note on the birational cancellation problem, *Journal of Pure and Applied Algebra* 71 (1992), 141–154.
16. (with Mowaffaq Hajja) Finite group actions on rational function fields, *Journal of Algebra* 149 (1992), 139–154.
17. Injective morphisms of affine varieties, *Proc. Amer. Math. Soc.* 119 (1993), 1–4.
18. (with Mowaffaq Hajja and Jack Ohm) Function fields of conics as invariant subfields, *Journal of Algebra* 163 (1994), 383–403.
19. (with Mowaffaq Hajja) Three-dimensional purely monomial group actions, *Journal of Algebra* 170 (1994), 805–860.
20. Central graded division algebras, *Journal of Algebra* 174 (1995), 959–979.
21. (with Mowaffaq Hajja) Some actions of symmetric groups, *Journal of Algebra* 177 (1995), 511–535.
22. (with Shou-Jen Hu) Efficient generation of the ring of invariants, *Journal of Algebra* 180 (1996), 341–363.
23. Group actions of some subgroups of parabolic subgroups, *Journal of Algebra* 185 (1996), 175–183.
24. (with Mowaffaq Hajja) Twisted actions of symmetric groups, *Journal of Algebra* 188 (1997), 626–647.
25. Minimal polynomials over cyclotomic fields, *American Math. Monthly* 104 (1997), 258–260.
26. (with Hamza Ahmad and Mowaffaq Hajja) Negligibility of projective linear automorphisms, *Journal of Algebra* 199 (1998), 344–366.
27. Integral representations of cyclic groups of order  $P^2$ , *Journal of Algebra* 207 (1998), 82–126.
28. A note on cyclotomic polynomials, *Rocky Mountain Journal of Mathematics* 29 (1999), 893–907.

29. (with Li Chiang and Huah Chu) Generation of invariants, *Journal of Algebra* 221 (1999), 232–241.
30. (with Shisun Ding and Eng-Tjioe Tan) Chiungtze C. Tsen (1898–1940) and Tsen’s theorems, *Rocky Mountain Journal of Mathematics* 29 (1999), 1237–1269.
31. Cubic fields and radical extensions, *Amer. Math. Monthly* 107 (2000), 254–256.
32. (with Hamza Ahmad and Mowaffaq Hajja) Rationality of some projective linear actions, *Journal of Algebra* 228 (2000), 643–658.
33. Almost Cohen-Macaulay modules, *Communications in Algebra* 29 (2001), 781–787.
34. (with Huah Chu) Rationality of  $p$ -group actions, *Journal of Algebra* 237 (2001), 673–690.
35. (with Huah Chu) Quartic fields and radical extensions, *Journal of Symbolic Computation* 34 (2002), 83–89.
36. Addendum to the article “Almost Cohen-Macaulay modules”, *Communications in Algebra* 30 (2002), 1049–1052.
37. Y. C. N. Cheng, T. P. Eagan, T. Chmielewski, J. Folck, M. C. Kang, T. K. Kidane, Sh. M. Shvartsman, and R. W. Brown, A degeneracy study in the circulant and bordered-circulant approach to birdcage and planar coils, *Magnetic Resonance Materials in Biology, Physics and Medicine*, 16 (2003), 103–111.
38. Rationality problem of  $GL_4$  group actions, *Advances in Mathematics* 181 (2004), 321–352.
39. (with Huah Chu and Shou-Jen Hu) Noether’s problem for dihedral 2-groups, *Commentarii Math. Helvetici* 79 (2004), 147–159.
40. A genus formula for some plane curves, *l’Enseignement Math.* 50 (2004), 139–146.
41. Some group actions on  $K(x_1, x_2, x_3)$ , *Israel Journal of Math.* 146 (2005), 77–92.
42. (with Huah Chu and Shou-Jen Hu) A variant of the Reynolds operator, *Proc. of Amer. Math. Soc.* 133 (2005), 2865–2871.

43. Noether's problem for dihedral 2-groups II, *Pacific Journal of Math.* 222 (2005), 301–316.
44. Noether's problem for metacyclic  $p$ -groups, *Advances in Math.* 203 (2006), 554–567.
45. Fixed fields of triangular matrix groups, *Journal of Algebra* 302 (2006), 845–847.
46. A central extension theorem for essential dimension, *Proc. of Amer. Math. Soc.* 136 (2008), 809-813.
47. (with Huah Chu, Shou-Jen Hu and Y. G. Prokhorov) Noether's problem for groups of order 32, *Journal of Algebra* 320 (2008) 3022-3035.
48. (with Huah Chu, Shou-Jen Hu and Jiping Zhang) Groups with essential dimension one, *Asian Journal of Mathematics* 12 (2008) 177-192.
49. (with Akinari Hoshi) A rationality problem of some Cremona transformation, *Proc. Japan Academy* 84, Ser. A (2008) 133-137.
50. (with Bernat Plans) Reduction theorems for Noether's problem, *Proc. of Amer. Math. Soc.* 137 (2009) 1867-1874.
51. Rationality problem for some meta-abelian groups, *Journal of Algebra* 322 (2009) 1214-1219.
52. Retract rationality and Noether's problem, *International Mathematics Research Notices* 15 (2009) 2760-2788.
53. (with Jianyi Shi, Jiping Zhang, Stephen S. T. Yau and Yung Yu) Some primitive linear groups of prime degree, *Journal of Math. Soc. Japan* 61 (2009) 1013-1070.
54. Bezout's theorem and ideals of terminal forms, *Expositiones Math.* 28 (2010) 265-268.
55. (with Huah Chu, Shou-Jen Hu and B. E. Kunyavskii) Noether's problem and the unramified Brauer group for groups of order 64, *International Mathematics Research Notices* 12 (2010) 2329-2366.
56. (with Yuri G. Prokhorov) Rationality of three-dimensional quotients by monomial actions, *Journal of Algebra* 324 (2010) 2166-2197.

57. (with Akinari Hoshi) Twisted symmetric group actions, *Pacific Journal Math.* 248 (2010) 285-304.
58. Noether's problem for  $p$ -groups having a cyclic subgroup of index  $p^2$ , to *Advances in Math.* 226 (2011) 218-234.
59. (with Huah Chu and Shou-Jen Hu) A note on projective normality, *Proc. of Amer. Math. Soc.* 139 (2011) 1989-1992.

#### Book Chapter

1. (with Shou-Jen Hu) Noether's problem for some  $p$ -groups, in "Cohomological and geometric approaches to rationality problems", edited by F. Bogomolov and Y. Tschinkel, *Progress in Math.* vol. 282, Birkhauser, Boston, 2010.

#### Conference Papers

1. Azumaya  $p$ -algebras, in "Proceedings KIT Mathematics Workshop: Algebra and Topology, 1986" edited by J. K. Koo and D. Y. Suh, Korea Institute of Technology Mathematics Research Center, 1987, Taejon.
2. Constructions of Brauer-Severi varieties and norm hypersurfaces, in "Proceedings of Algebraic Geometry Seminar, Singapore, 1987" edited by M. Nagata and T. A. Peng, World Scientific, 1988, Singapore.
3. Metacyclic algebras, in "Proceedings of the First International Symposium on Algebraic Structures and Number Theory, Hong Kong, 1988" edited by S. P. Lam and K. P. Shum, World Scientific, 1990, Singapore.
4. Abhyankar-Moh's epimorphism theorem, in "Proceedings of Commutative Algebra and Combinatorics, Nagoya, 1990" edited by N. Iwahori, H. Matsumura, M. Nagata, H. Narushima, R. Stanley and K. Watanabe, Nagoya University, 1990, Nagoya.
5. Finite group actions on rational function fields, in "Proceedings of the International Conference of Commutative Algebra, Vechta, 1994" edited by W. Bruns, J. Herzog, M. Hochster and U. Vetter, *Vechtaer Universitatsschriften*, Vechta, Germany, 1994.

6. Multiplicative actions of finite groups, in “Proceedings of the Summer School on Commutative Algebra”, Edited by J. Elias, J. M. Giral, R. M. Miró-Roig and S. Zarzuela, Bellaterra, Spain, 1996.
7. Integral representations of some  $p$ -groups, in “Algebra and Number Theory, Fes, 1997”, edited by M. Boulagouaz and J. P. Tignol, Marcel Dekker.
8. The rationality problem of finite group actions, in “Proceedings of ICCM, Beijing, 1998”, AMS/IP Studies in Advanced Mathematics vol.20, 2001.
9. Introduction to Noether’s problem for dihedral groups, Algebra Colloquium 11 (2004), 71–78 (The special issue of the “Proceedings of the ICM Satellite Conference on Algebra, 2002, Suzhou”).
10. Introduction to algebraic geometry codes, in “Recent trends in coding theory and its applications”, edited by Wen-ching Li, AMS/IP Studies in Advanced Math. vol.41, 2007.
11. Some rationality problems revisited, in “Proceedings of the 4th International Congress of Chinese Mathematicians, Hangzhou 2007”, edited by Lizhen Ji, Kefeng Liu, Lo Yang and Shing-Tung Yau, Higher Education Press (Beijing) and International Press (Somerville), 2007.
12. (with Huah Chu and Shou-Jen Hu) A rationality problem of certain  $A_4$  action, in “Recent development in algebras and related areas : Proceeding of the conference dedicated to Prof. Zhexian Wan, 2007 ”, Higher Education Press (Beijing) and International Press (Somerville), 2009.
13. Actions of dihedral groups, in “A festschrift in honor of Prof. Man-Keung Siu, 2005”, to Hong Kong University Press, to appear.

### Books

1. (Editors, with Ko-Wei Lhi) “Algebra, analysis and geometry: Proc. Symp. in Honor of Chen-Jung Hsu and Kung-Sing Shih”, World Scientific, 1989, Singapore.

2. (Editor) “Algebra and Geometry, National Taiwan University, Taipei, December 26–30, 1995”, International Press, Cambridge, MA, 1998.
3. (Editor, with Wen-ching Winnie Li and Gerard Jennhwa Chang) Recent trends in coding theory and its applications, International Press, Cambridge, MA, to appear.
4. 微積分入門, 故鄉出版社, 1982。
5. 幾個有名的數學問題, 中央研究院數學所, 1985。
6. 近世代數, 聯經出版社, 1988。



## 榮譽

國立台灣大學終身職特聘教授 (2006 ~ )

國立台灣大學講座教授 (2006~2009, 2009~2012)

教育部國家講座教授 (第6屆, 2002-2005)

教育部學術獎 (第43屆, 2000)

國科會特約研究人員 (1996-2002)

國科會傑出研究獎 (1985-87, 1988-90, 1990-92, 1994-96)

國科會優等研究獎 (1987, 1992, 1993)

教育部大學院校講義類優等獎 (1985, “微積分入門”, 故鄉出版社)

教育部大學院校講義類優等獎 (1988, “近世代數”, 聯經出版社)

## 履歷表

康明昌 (Ming-chang Kang)

籍貫: 台灣省台南縣

出生年月日: 1948年4月20日

住址: 台北市溫州街22巷7號2樓

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### 學歷

1971年6月, 國立台灣大學數學系理學士;

1974年6月, 美國芝加哥大學數學系碩士;

1977年6月, 美國芝加哥大學數學系博士。

### 經歷

1981年8月~, 國立台灣大學數學系教授;

國立台灣大學終身職特聘教授 (2006 ~);

國立台灣大學講座教授 (2006年8月~2009年7月, 2009年8月~2012年7月);

教育部學術審查委員會委員 (2005年8月~2007年7月);

高等教育評鑑中心數學學門召集人暨訪評委員 (2005年8月~2007年7月)。

1977年8月~1981年7月, 國立台灣大學數學系副教授;

2002年8月~2005年7月, 教育部國家講座教授;

2002年1月, 台灣數學建模與創意學會理事長;

1997年2月~2002年7月, 國立台灣大學理學院院長;

1987年8月~1990年7月, 國立台灣大學數學系系主任;

1997年8月~2000年7月, 國科會自然處國家理論科學中心執行委員;

1988年7月~1990年6月, 國科會自然處數學學門召集人;

1987年7月~1988年6月, 國科會自然處數學研究推動中心主任;

1982年7月~1983年6月, 國科會自然處數學學門召集人;

1992年9月, 印度 Tata Institute of Fundamental Research (Bombay, India) 客座教授;  
1991年8月~1992年7月, 美國普渡大學 (Purdue University) 客座教授;  
1983年8月~1984年7月, 美國芝加哥大學訪問學人;  
1980年7月~1980年9月, Tata Institute of Fundamental Research (Bombay, India) 訪問學人。

## 其他經歷

1982年~, Reviewer of “Mathematical Reviews” (American Mathematical Society);  
1979年~2005年, Editor of “Bulletin of the Institute of Mathematics, Academia Sinica”;  
1981年~1983年, Chief Editor of “Chinese Journal of Mathematics”;  
1983年~1985年, Editor of “Chinese Journal of Mathematics”;  
1978年~1979年, 1985年~1987年, “數學傳播季刊” (中研院數學所, 台北) 編輯;  
1987年~, “大學數學叢書” (台北聯經出版社) 編輯;  
1992年~, Editor of “University Mathematics” Series (World Scientific, Singapore);  
1998年~, “中國現代數學家傳” (江蘇教育出版社) 編輯。

## 榮譽

國立台灣大學終身職特聘教授, 2006 ~;  
國立台灣大學講座教授, 2006~2012年;  
教育部國家講座教授, 2002~2005年;  
教育部學術獎, 2000年;  
國科會特約研究人員 (1996~2002);  
國科會傑出研究獎 (1985~1987, 1988~1990, 1990~1992, 1994~1996);  
國科會優等研究獎 (1987~1988, 1992~1993, 1993~1994);  
教育部大學院校講義類優等獎 (“微積分入門”, 故鄉出版社), 1985年;  
教育部大學院校講義類優等獎 (“近世代數”, 聯經出版社), 1988年。

## 學會會員

American Mathematical Society;  
中國數學會 (台北);  
台灣數學建模與創意學會。

## 受邀國際會議演講 (Invited talks)

1987年9月3日~6日, “Algebraic Geometry Seminar, Japan Society for the Promotion of Science and Singapore National University” (Singapore), 因故未參加, 但論文在該次大會論文集出版;

1988年8月8日~13日, “First International Symposium on Algebraic Structures and Number Theory, Hong Kong” (Hong Kong);

1990年8月15日~19日, “Conference of Commutative Algebra and Combinatorics, Nagoya” (Nagoya, Japan);

1993年5月24日~29日, “International Conference of Arithmetic Geometry, Nakai University and Academy of the Third World, Trieste, Italy” (Tianjin 天津);

1994年7月27日~8月1日, “International Conference of Commutative Algebra, Vechta” (Vechta, Germany), 因故未參加, 但論文在該次大會論文集出版;

1995年6月26日~30日, “7emes Rencontres du Contact Franco-Belge a Reims” (第七屆法國與比利時代數聯合會議, Reims University, France);

1996年7月16日~26日, Summer School on Commutative Algebra, Bellaterra” (Centre de Recerca Matemàtica, Barcelona, Spain);

1997年5月6日~9日, “International Conference on Algebra, Fes” (Fes University, Fes, Morocco);

1998年5月25日~6月5日, “Conference on Homological Methods in Commutative Algebra and Algebraic Geometry” (Genova University, Italy);

1998年12月12日~16日, “International Congress of Chinese Mathematicians, Beijing” (Beijing 北京);

1999年10月10日~15日, “The 7th Conference on Algebra in China, Beijing” (Beijing 北京);

2000年10月2日~7日, “International Workshop on Coding Theory, Lattices, Modular Forms and Vertex Operator Algebras” (Yamagata, Japan);

2001年12月7日~12日, “International Conference on Algebra and Geometry” (Hyderabad, India);

2002年2月27日~3月3日, “Workshop on Group Actions on Rational Varieties” (Montreal, Canada);

2002年8月14日~17日, “International Conference in Algebras and Related Topics” (Hong Kong 香港);

2002年8月29日~9月2日, “International Congress of Mathematics 2002 Satellite Conference on Algebra” (Suzhou 蘇州), plenary talk;

2003年10月23日~25日, “Symposium on Mathematics 2003, Peking University” (Peking 北京);

2003年12月8日~13日, “International Conference on Commutative Algebra and Combinatorics” (Allahabad, India);

2004年6月21日~25日, “Complex Geometry and Related Topics, East China Normal University” (Shanghai 上海);

2004年12月3日~5日, “Annual Meeting of Chinese Mathematics Society, Taipei” (Taipei 台北), plenary talk;

2005年6月30日, “Algebra Day” (Hong Kong University, Hong Kong);

2005年7月25日~29日, “70-th Anniversary of Chinese Mathematical Society — Opportunity and Challenge” (Weihai 山東威海);

2005年9月5日~9日, “Galois Groups and Algebraic Equations” (Kagoshima, Japan);

2006年12月28日~30日, “International Conference on Projective Modules and Complete Intersection” (Tata Institute of Fundamental Research, Mumbai, India);

2007年5月22日~24日, “International Conference on Algebra and Number Theory dedicated to the 80th anniversary of V. E. Voskresenskii” (Samara, Russia), 因飛機機件故障, 未及時與會, 但論文由他人在該次大會宣讀;

2007年8月18日~20日, “International Conference on Algebra and Related Topics in Honor of Prof. Wan Zhe-Xian” (Beijing 北京);

2007年10月15日~19日, “Conference on Diagonally Symmetric Polynomials and Applications” (CRM, Castro-Urdiales, Spain);

2007年12月17日~23日, “International Congress of Chinese Mathematicians, Hangzhou” (Hangzhou 杭州);

2008年4月20日~25日, “International Conference on Group Theory and Related Topics, Xuzhou” (Xuzhou 徐州);

2008年12月22日~28日, “International Conference on Affine Algebraic Geometry” (Bangalore, India);

2010年12月5日~11日, “International Conference on Commutative Algebra and Algebraic Geometry” (Bangalore, India);

2010年12月17日~22日, “International Congress of Chinese Mathematicians, Beijing” (Beijing 北京);

2011年3月3日~6日, “Conference on Affine Algebraic Geometry” (Osaka, Japan);

2011年7月11日~15日, “Conference on Algebra, Xiamen” (Xiamen, 廈門)

## 在國內主辦之大型會議

1988年6月27日~29日, “代數、分析與幾何會議: 許振榮教授與施拱星教授榮退研討會” (國立台灣大學數學系);

1995年12月26日~30日, “代數與幾何國際會議” (國立台灣大學數學系);

2001年9月11日~14日, “東亞代數與組合學國際會議” (國立台灣大學數學系)。

2004年6月28日~7月23日, “密碼學及其應用研討會” (國立台灣大學數學系)。

2005年12月12日~18日, “Affine algebraic geometry, a special session of the joint conference of American Mathematical Society and Taiwanese Mathematical Society and its premeeting.