

Curriculum Vitæ of S. Hedayat

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Education

Ph.D. 1969 Cornell University,
M.S. 1966 Cornell University,
B.S. 1962 (Honor), University of Tehran

Employment

2003-present	UIC Distinguished Professor	University of Illinois at Chicago
1974-2003	Professor,	University of Illinois at Chicago
1989-90	Vis. Research Scientist	Center for Drug Evaluation and Research, U.S. Food and Drug Administration
1998-1999	Eirik Malmsten's Visiting Research Professor, Statistics	Göteborg University, Sweden
1981-82	Vis. Research Professor, Statistics	University of California at Berkeley
1973 Summer	Vis. Associate Professor	Cornell University
1972-74	Associate Professor, Statistics	Florida State University
1969-72	Assistant Professor, Statistics	Cornell University
1969 Fall	Vis. Assistant Professor, Statistics	Michigan State University
1962-64	Instructor, Statistics	University of Tehran

Professional Honors

Recipient of the UIC Graduate College's Inaugural Graduate Mentoring Awards, 2007
Recipient of the UIC Premier Award for Excellence in Teaching, 2003
UIC Distinguished Professor at University of Illinois, Chicago, appointed 2003
Honorary Member, Iranian Mathematical Society, selected 2003
Awarded Honorary Doctorate by the Universite de Neuchatel, Switzerland, 2002
STINT Swedish Foundation Scholar for international cooperation in research and
higher education, 1998-1999
University of Illinois Foundation Senior Scholar, elected 1991
Fellow of The American Statistical Association, elected 1973
Fellow of The Institute of Mathematical Statistics, elected 1975

Member of the International Statistical Institute, elected 1976

Awarded gold medal by Tehran University and the Minister of Higher Education, 1962.

Graduate Student Supervision

Ph.D. Dissertations Directed:

1. Dr. John, A. Eccleston, "On the theory of connected designs," (Cornell University), 1972.

Current position: Professor and Head, Department of Mathematics, The University of Queensland, Australia.

Email: j.eccleston@epsa.uq.edu.au.

2. Dr. Kasra Afsarinejad, "Some contributions to the theory of repeated measurements designs," (Florida State University), 1973.

Current position: Professor, Principal Scientist, Clinical Science, Biostatistics, Astrazeneca R&D Molndal, S-43183 Molndal, Sweden.

Email: kasra.afsarinejad@astrazeneca.com.

3. Dr. Arlene Ash, "Construction of generalized Youden designs," (University of Illinois at Chicago), 1977.

Current position: Research Professor, Boston Medical School, Boston, MA.

Email: aash@bu.edu.

4. Dr. Constantine Magda, (Gregory M. Constantine) "On E-optimal block designs and Schur optimality," (University of Illinois at Chicago), 1977.

Current position: Professor, Mathematics and Statistics Departments, University of Pittsburgh, PA.

Email: gmc@vms.cis.pitt.edu.

5. Dr. Walter M. Foody, "Properties, construction, and application of BIB designs with repeated blocks," (University of Illinois at Chicago), 1979.

Last position: Vice President, Amapa, Champion Papel e Celulose Ltda, Rodovia SP 340-KM171, 13840-970 Mogi Guacu SP, Brasil. Retired

Email: wfoody@swbell.net.

6. Dr. Bing-Ying Lang Lin, "On probabilities proportional to size sampling designs: Their construction, algebraic properties and application," (University of Illinois at Chicago), 1981.

Current position: Professor, Department of Mathematics, National Cheng-Chi University, Taipei, Taiwan.

Email: bylin@math.nccu.edu.tw.

7. Dr. Huey-Luen Ma (Helen) Hwang, "On (k,t) trades and the construction of BIB designs with repeated blocks," (University of Illinois at Chicago), 1982.

Current position: Principle Technical Staff Member, AT&T, Middletown, NJ.

Email: hwang0203@yahoo.com.

8. Dr. John Stufken, "On optimal and highly efficient designs for comparing test treatments with a control," (University of Illinois at Chicago), 1986.

Current position: Professor and Head, Statistics Department, University of Georgia, Athen, GA.

Email: Jstufken@stat.uga.edu.

9. Dr. Wenxun (William) Zhao, “On optimal repeated measurements designs,” (University of Illinois at Chicago), 1989.

Current position: Director, Biostatistics, Baxter Healthcare Corporation, 25212 W. IL Route 120, WG2-3S, Round Lake, IL 60073-0490.

Email: william.zhao@baxter.com.

10. Dr. Kewei Pu, “Contributions to fractional factorial designs,” (University of Illinois at Chicago), 1989.

Current position: Senior Director, Biostatistics and Data Management, Akros Pharma, Princeton, NJ 08540.

Email: kpu@akrospharma.com.

11. Dr. Hegang Chen, “Contributions to experimental designs,” (University of Illinois at Chicago), 1993.

Current position: Associate Professor, Division of Biostatistics and Bioinformatics, School of Medicine, University of Maryland, Baltimore, MD.

Email: hchen@epi.umaryland.edu.

12. Dr. Weiguang Zhang, “Nearly and virtually balanced incomplete block designs,” (University of Illinois at Chicago), 1994.

Last position: Senior Software Engineer, SPSS, Inc. Chicago, IL. (Wei passed away on June 1st, 1998).

13. Dr. Bo Yan, “Modeling and identifying optimum designs for fitting dose-response curves and estimating ED_p based on raw optical density data,” (University of Illinois at Chicago) 1995.

Current position: Associate Director, Clinical Statistics, Abbott Laboratory 100 Abbott Park, IL.

Email: bo.yan@abbott.com.

14. Dr. Guoqin Su, “On the existence and construction of difference schemes and orthogonal arrays,” (University of Illinois at Chicago) 1996.

Current position: Associate Director of Biostatistics, Novartis Pharmaceutical Corporation, 59 Route 10, East Hanover, NJ 07936-1080.

Email: guoqin.su@novartis.com.

15. Dr. Hairong Crigler, “Distribution-free confidence intervals for finite population quantile intervals in two-stage cluster sampling and an application in waste management,” (University of Illinois at Chicago) 1996.

Current position: Director, Experian Decision Sciences, 4 Gatehall Drive Parsippany, NJ 07054.

Email: Hairong.Crigler@experian.com.

16. Dr. Juhui Jiao, “Hypothesis testing in incomplete risks theory,” (University of Illinois at Chicago) 1997.

Current position: Associate Director, Johnson & Johnson PRD, Raritan, NJ, 08869.

Email: jjiao@its.jnj.com.

17. Dr. Weining Zhao Robieson, “On weighted kappa and concordance correlation coefficient,” (University of Illinois at Chicago), 1999.
Current position: Associate Director, Statistics, Global Pharmaceutical Research and Development, Abbott Laboratories, Abbott Park, IL.
Email: weining.z.robieson@abbott.com.
18. Dr. Jinglin Zhong, “Optimal and efficient nonlinear designs and solutions with interpretations to individual bioequivalence”, 2000.
Current position: Mathematical Statistician, Center for Drug Evaluation and Research, U.S. Food and Drug Administration, Silver Spring, MD
Email: jinglin.zhong@fda.hhs.gov.
19. Dr. Min Yang, “Universal Optimality in Crossover Designs and Statistical Methods in Assessing Agreement”, 2002.
Current position: Associate Professor, Department of Statistics, University of Missouri, Columbia, MO 65203
Email: yangmi@missouri.edu.
20. Dr. Haiyuan Zhu, “Optimal augmented designs and fractional factorial designs”, 2002.
Current position: Associate Director, Biostatistics, Forest Research Institute, Inc., Harborside Financial Center, Plaza V, 18th Floor, Jersey City, NJ 07311
Email: Haiyuan.Zhu@frx.com.
21. Dr. Xu Yan, “Optimal designs in stability studies”, 2004.
Current Position: Mathematical Statistician, Center for Devices and Radiological Health, U.S. Food and Drug Administration, 1350 Piccard Drive, HFZ-542, Rockville, MD 20850
Email: xu.yan@fda.hhs.gov.
22. Dr. Yunfan Deng, “Designs for crossover trials with binary outcomes”, 2005.
Current Position: Mathematical Statistician, Center for Drug Evaluation and Research, U.S. Food and Drug Administration, Silver Spring, MD
Email: Yunfan.Deng@fda.hhs.gov.
23. Dr. Wenting Wu, “A Unified Approach for Assessing Agreement”, 2006.
Current Position: Lead Statistician, Mayo Clinic, 200 First Street SW, Rochester, MN 55902
Email: wu.wenting@mayo.edu.
24. Dr. Xin Fang, “D-optimal Designs for Pharmacokinetic and Combined Pharmacokinetic Pharmacodynamic Models”, 2006.
Current Position: Mathematical Statistician, U.S. Food and Drug Administration, 10903 New Hampshire Avenue, Silver Spring, MD 20903
Email: Xin.Fang@fda.hhs.gov.
25. Dr. Daniel Tancredi, “Design Insights for Epidemiological Studies of Prevalent and Incident Dementia”, 2006
Current Position: Assistant Professor of Pediatrics, Center for Health Services Research in Primary Care - University of California at Davis
Email: djtancredi@ucdavis.edu.

26. Dr. Congrong (Helen) Lou, “Assessment of Agreement”, 2006.
Current Position: Senior Manager, Marketing Information R and D, ACNielsen,
Schaumburg, IL.
Email: helen.lou@acnielsen.com.
27. Dr. Zhiwu Yan, “Crossover Designs for a Self and Simple Mixed Carryover
Effects Model with Correlated Errors”, 2006
Current Position: Principal Biostatistician, Allergan Inc., 2525 Dupont Ave,
Irvine, CA 92612
Email: Yan_zhiwu@allergan.com.
28. Dr. Li Wei, “ Stochastic Curtailment Method Under Linear Models”, 2007
Current Position: Senior Research Biostatistician, Bristol-Myers Squibb, Hopewell,
NJ
Email: li.weil@bms.com.
29. Dr. Yuping Dong, “Surveillance Studies on Change Point in Incidence Rate”,
2007
Current Position: Senior Research Biostatistician, Bristol-Myers Squibb, 311
Pennington-Rocky Hill Road, Pennington, NJ, 08534
Email: yuping.dong@bms.com.
30. Dr. Weiya Zhang, “Designs for a Toxicity-Efficacy Model and Inference on a
Normal Mean with Known Coefficient of Variation”, 2007
Current Position: Principal Statistician, MedImmune LLC., 1 Medimmune Way,
Gaithersburg, MD
Email: zhangwe@medimmune.com.
31. Dr. Yuqing Tang, “A Comparison Model for Measuring Individual Agree-
ment”, 2010
Current Position: Mathematical Statistician, U.S. Food and Drug Administra-
tion, White Oak campus, Silverspring, MD
Email: yuqing.tang@fda.hhs.gov.
32. Dr. Ying Zhou, “D-optimal Designs for Complex Nonlinear Models in Chem-
ical Kinetics, PK/PD, and Environmental Science”, 2010
Current Position: Statistician, Children’s Memorial Hospital, 2300 Children’s
Plaza, Chicago, IL
Email: YZhou@childrensmemorial.org.
33. Dr. Wei Zheng, “Optimal and Efficient Crossover Designs for Test-Control
Study When Subject Effects are Random”, 2011
Current position: Assistant Professor of Statistics, Department of Mathematical
Sciences, Indiana University- Purdue University, Indianapolis, IN 46202.
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Editorships

- Annals of Statistics*
Associate Editor 1973-1980
- Communications in Statistics Series A and B*
Editorial Board Member 1975-1993
Associate Editor 1993-2002
- Journal of Statistical Planning and Inference*
Editorial Board Member 1975-1983
Coordinating Editor 1983-1995
Advisory Editor 1995-2000
- Arab Journal of Mathematical Sciences*
Advisory Board Member 1998-present
- Student*
Editorial Board Member 1993-present
- Journal of American Statistical Association*
Associate Editor 1993-1996; 2000-2009
- The American Statistician*
Associate Editor 2008-2011
- Bulletin of Iranian Mathematical Society*
Associate Editor 2003-present
- Journal of Linear Algebra and Its Applications*
Coeditor with Wayne Barrett, Christian Krattenthaler and
Raphael Loewy the special issue on Determinants and the Legacy
of Sir Thomas Muir, Volume 411 (390 pages) Dec. 2005
- Discrete Mathematics*
Coeditor with R.A. Brualdi, H. Kharaghani, G.B. Khosrovshahi
and S. Shahriari. International Workshop on Combinatorics,
Linear Algebra, and Graph Coloring, Volume 306, Issue 23 Dec. 2006
- Contemporary Mathematics*
Coeditor with R.A. Brualdi, H. Kharaghani, G.B. Khosrovshahi
and S. Shahriari. Twentieth Anniversary Conference of IPM,
on Combinatorics, Volume 531, 2010

Publications

Books

1. *Factorial Designs* (with W. T. Federer and B. L. Raktoc), Wiley, 1981.
2. *Design and Inference in Finite Population Sampling* (with B. K. Sinha), Wiley, 1991.
3. *Orthogonal Arrays-Theory and Applications* (with N. J. A. Sloane and J. Stufken), Springer-Verlag, 1999.
4. *Statistical Tools for Measuring Agreement* (with L. Lin and W. Wu), Springer-Verlag, 2011.

Articles

5. “An application of group theory to the existence and non-existence of orthogonal Latin squares” (with W. T. Federer), *Biometrika* **56** (1969), 547–551.
6. “F-square and orthogonal F-square designs: A generalization of Latin square and orthogonal Latin square designs” (with E. Seiden), *Annals of Mathematical Statistics* **41** (1970), 2035–2044.
7. “The existence and construction of two families of designs for two successive experiments” (with E. T. Parker and W. T. Federer), *Biometrika* **57** (1970), 351–355.
8. “An easy method of constructing partially replicated Latin square designs of order n for all $n > 2$ ” (with W. T. Federer), *Biometrics* **26** (1970), 327–330.
9. “On the equivalence of Mann’s group automorphism method of constructing an $O(n, n - 1)$ set and Raktoc’s collineation of constructing a balanced set of 1-restrictional prime powered lattice designs” (with W. T. Federer), *Annals of Mathematical Statistics* **41** (1970), 1530–1540.
10. “Some techniques for constructing sets of mutually orthogonal Latin squares” (with W. T. Federer, E. T. Parker, B. L. Raktoc, E. Seiden and R. J. Turyn), in *Proceedings of the Fifteenth Conference on Design of Experiments in Army Research Development and Testing, ARO-D Report*, 1970, 673–796.
11. “On a method of sum composition of orthogonal Latin squares” (with E. Seiden), in *Proceedings of the International Conference on Combinatorial Geometry with Its Applications*, Prugia, Italy, 1970, 239–256.
12. “Independent step-wise residuals for testing homoscedasticity” (with D. S. Robson), *Journal of the American Statistical Association* **65** (1970), 1573–1581.
13. “Book Review: An introduction to Finite Projective Planes , by A.A. Albert and R. Sandler,” *Biometrics* **26** (1970), 162-163.

14. "Book Review: Basic Concepts of Probability and Statistics , 2nd edition, by J.L. Hodges, Jr. and E.L. Lehman," *Biometrics* **26** (1970), 589-590.
15. "Book Review: Experimental Design: Procedures for the Behavioral Sciences , by Roger and E. Kirk," *Biometrics* **26** (1970), 590-593.
16. "Book Review: Survey of Applicable Mathematics , by K. Rektorys," *Biometrics* **26** (1970), 594-596.
17. "Book Review: Patterns and Configurations in Finite Spaces, and The Mathematics of Experimental Design , by S. Vajda (combined review)," *Annals of Mathematical Statistics* **41** (1970), 1780-1782.
18. "Experimental designs and combinatorial systems associated with Latin squares and sets of mutually orthogonal Latin squares" (with S. S. Shrikhande), *Sankhya, Series A* **33** (1971), 423-432.
19. "A set of three mutually orthogonal Latin squares of order 15," *Technometrics* **13** (1971), 696-698.
20. "On embedding and enumeration of orthogonal Latin squares" (with W. T. Federer), *Annals of Mathematical Statistics* **42** (1971), 509-516.
21. "Book Review: Sequences, Combinations, Limits , by S. I. Gelfand and others," *Biometrics* **27** (1971), 237-238.
22. "An algebraic property of the totally symmetric loops associated with Kirkman-Steiner triple systems," *Pacific Journal of Mathematics* **40** (1972), 305-309.
23. "Some families of designs for multi-stage experiments: Mutually balanced Youden designs when the number of treatments is prime power or twin primes, I." (with W. T. Federer and E. Seiden), *Annals of Mathematical Statistics* **43** (1972), 1517-1527.
24. "Book Review: Preservation of Infinite Divisibility under Mixing and Related Topics , by R.W. Stentil," *Biometrics* **28** (1972), 643-644.
25. "Self-orthogonal Latin square designs and their importance," *Biometrics* **29** (1973), 393-396.
26. "An application of sum composition: A self-orthogonal Latin square of order ten," *Journal of Combinatorial Theory, Series A* **14** (1973), 256-260.
27. "Resistant and susceptible BIB designs" (with P. W. M. John), *Annals of Statistics* **1** (1974), 148-158.
28. "On a measure of aliasing due to fitting an incomplete model" (with W. T. Federer and B. L. Raktoe), *Annals of Statistics* **2** (1974), 650-660.

29. “Pairwise and variance balanced incomplete block designs” (with W. T. Federer), *Annals of the Institute of Statistical Mathematics* **26** (1974), 331–338.
30. “On the theory of connected designs: Characterization and optimality” (with J. Eccleston), *Annals of Statistics* **2** (1974), 1238–1255.
31. “On the theory and application of sum composition of Latin squares and orthogonal Latin squares” (with E. Seiden), *Pacific Journal of Mathematics* **54** (1974), 85–113.
32. “On the non-existence of Knut Vik designs for all even orders” (with W. T. Federer), *Annals of Statistics* **3** (1975), 445–447.
33. “Three-way BIB designs” (with D. Raghavarao), *Journal of Combinatorial Theory, Series A* **18** (1975), 207–209.
34. “Further contributions to the theory of F-squares design” (with D. Raghavarao and E. Seiden), *Annals of Statistics* **3** (1975), 712–716.
35. “Some contributions to the theory of multi-stage Youden designs” (with K. Afsarinejad), *Annals of Statistics* **3** (1975), 707–711.
36. “Self-orthogonal Latin square designs and their importance, II,” *Biometrics* **31** (1975), 755–759.
37. “Minimal unbiased designs for linear parametric functions” (with W. T. Federer and B. L. Raktoe), in *A Survey of Statistical Design and Linear Models*, J. N. Srivastava, ed., North-Holland, Amsterdam, 1975, 145–153.
38. “Repeated measurements designs, I.” (with K. Afsarinejad), in *A Survey of Statistical Design and Linear Models*, J. N. Srivastava, ed., North-Holland, Amsterdam, 1975, 229–240.
39. “An application of statistical design theory to crop estimation with special reference to legumes and mixture of cultivars” (with W. T. Federer, C. C. Lowe and D. Raghavarao), *Agronomy Journal* **68** (1976), 914–919.
40. “Optimal designs for two noninteractive treatments” (with R. A. Bradley), *Technometrics* **19** (1977), 52–57.
41. “A complete solution to the existence and nonexistence of Knut Vik designs and orthogonal Knut Vik designs,” *Journal of Combinatorial Theory, Series A* **22** (1977), 331–337.
42. “Examination and analysis of residuals: A test for detecting a monotonic relation between mean and variance in regression through the origin” (with B. L. Raktoe and P. P. Talwar), *Communications in Statistics, Series A—Theory and Methods* **6** (1977), 497–506.

43. “On theory and applications of BIB designs with repeated blocks” (with W. Foody), *Annals of Statistics* **5** (1977), 932–935, Corridendum: *Ibid* **7** (1979), p. 925.
44. “Repeated measurements designs, II” (with K. Afsarinejad), *Annals of Statistics* **6** (1978), 619–628.
45. “A generalization of sum composition: Self-orthogonal Latin squares designs with sub-self-orthogonal Latin square designs,” *Journal of Combinatorial Theory, Series A* **24** (1978), 202–210.
46. “Hadamard matrices and their applications” (with W. D. Wallis), *Annals of Statistics* **6** (1978), 1184–1238.
47. “An introduction to design optimality with an overview of the literature” (with A. Ash), *Communications in Statistics, Series A—Theory and Methods* **7** (1978), 1295–1325.
48. “The trade off method in the construction of BIB designs with repeated blocks” (with S-Y. R. Li), *Annals of Statistics* **7** (1979), 1277–1287.
49. “Sampling design with reduced support sizes,” in *Optimizing Methods in Statistics*, J. Rustagi, ed., Academic Press, 1979, 273–288.
50. “An algebraic study of BIB designs: A complete solution for $v = 6$ and $k = 3$ ” (with G. B. Khosrovshahi), *Journal of Combinatorial Theory, Series A* **30** (1979), 43–52.
51. “The family of t-designs: Part I.” (with S. Kageyama), *Journal of Statistical Planning and Inference* **4** (1980), 173–212.
52. “Combinatorial topology and the trade off method in BIB designs” (with S-Y. R. Li), *Annals of discrete mathematics* **6** (1980), 189–200.
53. “Study of optimality criteria in design of experiments,” in *Statistics and Related Topics*, M. Csorgo, D. A. Dawson, J. N. K. Rao and A. K. M. E. Saleh, eds., North Holland Publishing Co., 1981, 39–56.
54. “Repeated measurements designs, IV: Recent advances,” in *Proceedings of the 43rd Session of the International Statistical Institute*, vol. XLIX, Bulletin of the International Statistical Institute, 1981, 591–610.
55. “A construction of repeated measurements designs with balance for residual effects” (with G. M. Constantine), *Journal of Statistical Planning and Inference* **6** (1982), 153–164.

56. “Complete designs with blocks of maximal multiplicity” (with G. M. Constantine), *Journal of Statistical Planning and Inference* **7** (1983), 289–294, *Corrigendum: Ibid* **7** (1983), 417.
57. “The family of t-designs: Part II” (with S. Kageyama), *Journal of Statistical Planning and Inference* **7** (1983), 257–287.
58. “An algorithm for generating a basis of the trades on t-designs” (with H. Hwang), *Communications in Statistics, Series B—Simulation and Computation* **12** (1983), 109–125.
59. “BIB(8, 56, 21, 3, 6) and BIB(10, 30, 9, 3, 2) designs with repeated blocks” (with H. L. Hwang), *Journal of Combinatorial Theory, Series A* **36** (1984), 73–91.
60. “Construction of BIB designs with various support sizes—with special emphasis for $v = 8$ and $k = 4$ ” (with H. L. Hwang), *Journal of Combinatorial Theory, Series A* **36** (1984), 163–173.
61. “A unified method for constructing PBIB designs based on triangular and L2 schemes” (with C. S. Cheng and G. M. Constantine), *Journal of the Royal Statistical Society: Series B* **46** (1984), 31–37.
62. “A characterization of a universally optimal design within a class of block designs,” *Journal of Statistical Planning and Inference* **9** (1984), 143–145.
63. “Pairwise orthogonal F-rectangle designs” (with W. T. Federer and J. P. Mandili), *Journal of Statistical Planning and Inference* **10** (1984), 365–374.
64. “Orthogonal F-rectangles for all even v ” (with W. T. Federer), *Calcutta Statistical Association Bulletin* **33** (1984), 85–92.
65. “A-optimal incomplete block designs for control-test treatment comparisons” (with D. Majumdar), *Technometrics* **26** (1984), 363–370.
66. “Redesigning experiments” (with D. Majumdar), in *Developments in Statistics and Its Applications* Proceedings of the First Saudi Symposium on Statistics and Its Applications, A. M. Abouammoh, E. El-Neweihi, E. Aly and M. A. Alos, eds., King Saud Univ. Library, Riyadh, Saudi Arabia, 1984, 113–140.
67. “A study of BIB designs through support matrices, (H. Pesotan),” *Journal of Statistical Planning and Inference* **11** (1985), 363–372.
68. “Families of A-optimal block designs for comparing test treatments with a control” (with D. Majumdar), *Annals of Statistics* **13** (1985), 757–767.
69. “Combining experiments under Gauss-Markov models” (with D. Majumdar), *Journal of The American Statistical Association* **80** (1985), 698–703.

70. “Characterization of triply balanced matrices with applications to survey sampling” (with H. Pesotan), *Journal of Statistical Planning and Inference* **15** (1986), 11–17.
71. “Fractional factorial designs in the form of incomplete orthogonal arrays” (with J. Stufken), in *Statistical Design: Theory and Practice*, C. E. McCulloch, S. J. Schwager, G. Casella and S. R. Searle, eds., Cornell University Press, 1986, 101–115.
72. “On a statistical optimality of magic squares,” *Statistics & Probability Letters* **5** (1987), 191–192.
73. “Model robust optimal designs for comparing test treatments with a control” (with D. Majumdar), *Journal of Statistical Planning and Inference* **18** (1987), 25–33.
74. “Designs for survey sampling avoiding contiguous units” (with C. R. Rao and J. Stufken), in *Handbook of Statistics Sampling*, P. R. Krishnaiah and C. R. Rao, eds., vol. 6, North-Holland, Amsterdam, 1988, 575–583.
75. “Sampling plans excluding contiguous units” (with C. R. Rao and J. Stufken), *Journal of Statistical Planning and Inference* **19** (1988), 159–170.
76. “Two-symbol orthogonal arrays” (with J. Stufken), in *Optimal Design and Analysis of Experiments*, Y. Dodge, V. V. Fedorov and H. P. Wynn, eds., Elsevier Science Publishers, B.V, North -Holland, 1988, 47–58.
77. “A graphical proof of the nonexistence of BIB $(7, b, r, 3, \lambda | 16)$ designs” (with W. Foody), *Journal of Statistical Planning and Inference* **20** (1988), 77–90.
78. “Optimal designs for comparing test treatments with controls, [with discussions]” (with M. Jacroux and D. Majumdar), *Statistical Science* **3** (1988), 462–491.
79. “Block designs—a review on combinatorics” (with S. Kageyama), in *Proceedings of International Conference on Population Mathematics* Rasch, Pirchner and Adams, ed., Rostock, D.D.R, 1988, 88–118.
80. “On the maximum number of constraints in orthogonal arrays” (with J. Stufken), *Annals of Statistics* **17** (1989), 448–451.
81. “The possible support sizes for BIB designs with $v = 8$ and $k = 4$ ” (with I. N. Landgev and J. Stufken), *Journal of Combinatorial Theory, Series A* **51** (1989), 258–267.
82. “Results on the support of BIB designs” (with I. N. Landgev and V. D. Tonchev), *Journal of Statistical Planning and Inference* **22** (1989), 295–306.

83. “On a relation between pairwise balanced and variance balanced block designs” (with J. Stufken), *Journal of The American Statistical Association* **84** (1989), 753–755.
84. “On the maximum number of factors in two construction methods for orthogonal arrays” (with J. Stufken), in *Statistical Data Analysis and Inference 1989*, a volume in honor of C.R. Rao, Y. Dodge, ed., North-Holland, Amsterdam, 33–40.
85. “The construction of *PPS* sampling designs through a method of emptying boxes” (with B-Y. Lin and J. Stufken), *Annals of Statistics* **17** (1989), 1886–1905.
86. “An application of trade-off to controlled sampling” (with D. Majumdar), in *Proceedings of the Seminars on Problems of Large Scale Sample Surveys in India*. Held Dec. 26-27, 1990 at Computer Science Unit of ISI, A. Dewanji and A. K. Adhikari, eds., Calcutta, India, 44–54.
87. “The theory of trade-off for t-designs, I.M.A. Volumes in Math. and Its Applications,” in *Coding Theory and Design Theory, Part II*, D. Ray-Chaudhuri, ed., vol. 21, Springer-Verlag, 1990, 101–126.
88. “Strongly three-fold orthogonal matrices with statistical applications” (with H. Pesotan), *Linear Algebra and Its Applications* **136** (1990), 1–23.
89. “The game of emptying boxes: Theory and application,” in *Texas Tech Math Series Visiting Scholars’ Lectures, 1989-1990*, vol. 16, 1990, 49–71.
90. “Optimal two-period repeated measurements designs” (with W. Zhao), *Annals of Statistics* **18** (1990), 1805–1816, Corrigendum: *Ibid* **20** (1992), p. 619.
91. “New properties of orthogonal arrays and their statistical applications,” in *Statistical Design and Analysis of Industrial Experiments*, S. Ghosh, ed., Marcel Dekker, Inc., 1990, 407–422.
92. “Admissible extension of the sample mean and the Horvitz-Thompson estimator utilizing additional resources” (with K. W. Pu), in *Proceedings of Raj Chandra Symposium on Probability, Statistics and Design of Experiments*, Wiley Eastern Ltd., 1990, 369–382.
93. “On the construction of asymmetrical orthogonal arrays” (with J. Stufken and W. Pu), *Annals of Statistics* **20** (1992), 2142–2152.
94. “Some mathematical results on incomplete orthogonal arrays” (with J. Stufken), *Sankhya (special issue dedicated to the memory of Professor R.C. Bose)* **54** (1992), 197–202.
95. “Two-level factorial designs for main-effects and selected two-factor interactions” (with H. Pesotan), *Statistica Sinica* **2** (1992), 453–464.

96. “Coexistence of a family of systematic sampling designs with positive second order inclusion probabilities and block designs” (with H. Pesotan), *Information and System Sciences* **17** (1992), 113–122.
97. “A pair of orthogonal Latin squares of order 10 with four shared parallel transversals” (with J. W. Brown and E. T. Parker), *Journal of Combinatorics, Information & System Science, (special volume in honor of C.R. Rao)* **18** (1993), 109–111.
98. “A prospect for general method of constructing t-designs” (with G. B. Khosrovshahi and D. Majumdar), *Discrete Applied Mathematics* **42** (1993), 31–50.
99. “Blends of statistical designs for dose-response studies” (with G. Chi and K. Mahjoob), *Communications in Statistics - Theory & Methods* **A23** (1994), 341–360, (special issue on statistical issues in drug testing and drug evaluation).
100. “Optimum experimental designs for comparative bioavailability studies” (with H. Chen), *Journal of Statistical Planning and Inference* **42** (1994), 271–289, (special issue on statistical Design of Medical Experiments).
101. “On fixed size sampling plans providing nonnegative Sen-Yates-Grundy variance estimator” (with D. Majumdar), *Journal of Statistical Planning and Inference* **44** (1994), 237–247.
102. “Virtually balanced incomplete block designs for $v = 22$, $k = 8$, and $\lambda = 4$ ” (with J. Stufken and W. Zhang), *Journal of Combinatorial Designs* **3** (1995), 195–201.
103. “Contingently and virtually balanced incomplete block designs and their efficiencies under various optimality criteria” (with J. Stufken and W. Zhang), *Statistica Sinica* **5** (1995), 575–591, (Invited contribution to special section on optimal design of experiments).
104. “Relationship of whole-blood FK506 concentrations to rejection and toxicity in liver and kidney transplants” (with R. P. Kershner and G. Su), *Journal of Biopharmaceutical Statistics* **6** (1996), 411–424.
105. “ 2^{n-l} designs with weak minimum aberration” (with H. Chen), *Annals of Statistics* **24** (1996), 2536–2548.
106. “On difference schemes and orthogonal arrays of strength t ” (with J. Stufken and G. Su), *Journal of Statistical Planning and Inference (special issue on orthogonal arrays and affine designs, Part II)* **56** (1996), 307–324.
107. “Random sampling for the forensic study of controlled substances” (with A. J. Azenman and W. G. Zhang), in *Proceedings of the Section on Physical and Engineering Sciences of the American Statistical Association - with discussion by Shari Seidman Diamond*, 1996, 12–23.

108. “On the maximal number of factors and the enumeration of 3-symbols orthogonal arrays of strength 3 and index 2” (with J. Stufken and E. Seiden), *Journal of Statistical Planning and Inference (special issue in honor of P. Erdos)* **58** (1997), 43–63.
109. “Modeling and identifying optimum designs for fitting dose-response curves based on raw optical density data” (with B. Yan and J. Pezzuto), *Journal of The American Statistical Association* **92** (1997), 1132–1140.
110. “On the construction and existence of orthogonal arrays with three levels and indices one and two” (with J. Stufken and G. Su), *Annals of Statistics* **25** (1997), 2044–2053.
111. “Designs for two-level factorial experiments with linear models containing main effects and selected two-factor interactions” (with H. Pesotan), *Journal of Statistical Planning and Inference* **64** (1997), 109–124.
112. “Exclusion of an undesirable sample from the support of a simple random sample” (with W. Robieson), *The American Statistician* **52** (1998), 41–43.
113. “Sampling designs to control selection probabilities of contiguous units” (with J. Stufken), *Journal of Statistical Planning and Inference (Special R.C. Bose Memorial issue)* **72** (1998), 333–345.
114. “Some recent advances in minimum aberration designs” (with H. Chen), in *New Developments and Applications in Experimental Designs*, vol. 34, 1998, 186–198, Institute of Mathematical Statistics Lecture Notes - Monograph series..
115. “ 2^{n-m} designs with resolution III and IV containing clear two-factor interactions” (with H. Chen), *Journal of Statistical Planning and Inference* **75** (1998), 147–158.
116. “A family of optimal designs for experiments with multiple responses” (with H. Chen and C. Suen), *Journal of Combinatorics, Information and System Science* **23** (1998), 259–269 .
117. “Compound orthogonal arrays” (with J. Stufken), *Technometrics* **41** (1999), 57–61.
118. “Column optimal strongly threefold orthogonal matrices in a class index eight” (with H. Pesotan), *Linear Algebra and its Applications* **298** (1999), 171–191.
119. “Designs for fitting non-linear dose-response curves” (with B. Yan and J. Pezzuto), *Proceedings of the Biopharmaceutical Section of the American Statistical Association* (1999), 132–137.
120. “Tools for characterizing the supports and their sizes for nonlinear D-optimal designs” (with J. Zhong and L. Nie), *Proceeding of the Fifth Iranian Statistics Conference* (2000), 69–81.

121. “Compound orthogonal arrays and dispersion effects” (with J. Stufken), *Proceeding of the Fifth Iranian Statistics Conference* (2000), 51–68.
122. “Compound orthogonal arrays and dispersion effects” (with J. Stufken), in *Recent Advantices in Experimental Design and Related Topics*, S. Altan and J. Singh, eds., Nova Science Publishers, Inc., 2001, 119–132.
123. “Optimal and efficient crossover designs for a model with self and mixed carryover effects” (with J. Stufken), *Proceedings of the Biopharmaceutical Section of the American Statistical Association* (2001).
124. “Optimal designs for estimating EDp based on raw optical density data” (with B. Yan and J. Pezzuto), *Journal of Statistical Planning and Inference* **104** (2002), 161–174.
125. “Statistical methods in assessing agreements: models, issues, and tools” (with L. Lin, B. Sinha and M. Yang), *Journal of The American Statistical Association* **97** (2002), 257–270.
126. “Repeated measurements designs for a model with self and simple mixed carryover effects” (with K. Afsarinejad), *Journal of Statistical Planning and Inference* **106** (2002), 449–459.
127. “Characterization of tropane alkaloid aromatic esters that reverse the multidrug-resistance phenotype” (with Q. Mi, B. Cui, D. Chávez, H. Chai, G. A. Cordell, H. Zhu, A. D. Kinghorn and J. M. Pezzuto), *Anticancer Research* **22** (2002), 1385–1398.
128. “Trifolium pratense (red clover) exhibits estrogenic effects in vivo in ovariectomized sprague-dwaley rats” (with J. E. Burdette, J. Liu, D. Lantvit, E. Lim, N. Booth, K. P. L. Bhat, R. B. V. Breemen, A. I. Constantinou, J. M. Pezzuto, N. R. Farnsworth and J. L. Bolton), *The Journal of Nutrition* **132** (2002), 27–30 .
129. “Adding more observations to saturated D-optimal resolution III two-level factorial designs” (with H. Zhu), *Journal of Combinatorial Design.* **11** (2003), 51–77.
130. “Universal optimality of balanced uniform crossover designs” (with M. Yang), *Annals of Statistics* **31** (2003), 978–983.
131. “Optimal and efficient crossover designs under different assumptions about the carryover effects” (with J. Stufken), *Journal of Biopharmaceutical Statistics* **13** (2003), 519–528.
132. “On a sampling design for estimation of negligible accident rates involving electronic toys” (with B. K. Sinha), *The American Statistician* **57** (2003), 249–252, Corridendum: *Ibid* 59 (2003), p. 280..
133. “Trade-off: theory and applications,” *Student* **4** (2003), 273–283.

134. “Optimal and efficient designs for 2-parameters nonlinear models” (with J. Zhong and L. Nie), *Journal of Statistical Planning and Inference* **124** (2004), 205–217.
135. “Universal optimality for selected crossover designs” (with M. Yang), *Journal of The American Statistical Association* **99** (2004), 461–466.
136. “Multiple myeloma regression mediated by bruceantin” (with M. Cuendet, K. Christov, D. D. Lantvit, Y. Deng, L. Helson, J. D. McChesney and J. M. Pezuto), *Clinical Cancer Research* **10** (2004), 1170–1179.
137. “Optimal and efficient crossover designs for comparing test treatments with a control treatment” (with M. Yang), *Annals of Statistics* **33** (2005), 915–943.
138. “Supremum version tests for comparing cumulative incidence, ” (with J. Jiao), *Proceedings of the American Statistical Association, Biostatistics Section* **2005** (2005), 1–5.
139. “A conversation with Walter T. Federer,” *Statistical Science* **20** (2005), 302–315 .
140. “Comparison of the in vitro estrogenic activities of compounds from hops (*Humulus lupulus*) and red clover (*Trifolium pratense*) ” (with C. R. Overk, P. Yao, L. R. Chadwick, D. Nikolic, Y. Sun, M. A. Cuendet, Y. Deng, G. F. Pauli, N. R. Farnsworth, R. B. V. Breemen and J. L. Bolton), *Journal of Agricultural and Food Chemistry* **53** (2005), 6246–6253.
141. “Disruption of Growth Hormone Signaling Retards Early Stages of Prostate Carcinogenesis in the C3(1)/T Antigen Mouse” (with Z. Wang, G. S. Prins, K. T. Coschigano, J. J. Kopchick, J. E. Green, V. H. Ray, K. T. Christov, T. G. Unterman and S. M. Swanson), *Endocrinology* **146** (2005), 5188–5196.
142. “Optimal designs in stability studies” (with X. Yan and L. Lin), *Journal of Biopharmaceutical Statistics* **16** (2006), 35–59.
143. “Optimal and efficient crossover designs when subject effects are random” (with J. Stufken and M. Yang), *Journal of The American Statistical Association* **101** (2006), 1031–1038.
144. “Efficient crossover designs for comparing test treatments with a control treatment ” (with M. Yang), *Discrete Mathematics* **306** (2006), 3112–3124.
145. “Selenoprotein deficiency accelerates prostate carcinogenesis in a transgenic model” (with V. Diwadkar-Navsariwala, G. S. Prins, S. M. Swanson, L. A. Birch, V. H. Ray, D. L. Lantvit and A. M. Diamond), *Proceedings of the National Academy of Science*, **103** (2006), 8179–8184.

146. “Seasonal variation of red clover (*Trifolium pratense* L., Fabaceae) isoflavones and estrogenic activity ” (with N. L. Booth, C. R. Overk, P. Yao, S. Totura, Y. Deng, J. L. Bolton, G. F. Pauli and N. R. Farnsworth), *Journal of Agricultural and Food Chemistry* **54** (2006), 1277–1282.
147. “Tools for constructing optimal two-level factorial designs for a linear model containing main effects and one two-factor interaction ” (with H. Pesotan), *Journal of Statistical Planning and Inference* **137** (2007), 1452–1463.
148. “Trades” (with G. B. Khosrovshahi), in *Handbook of Combinatorial Designs, 2nd Ed.*, C. J. Colbourn and J. H. Dinitz, eds., CRC, Taylor & Francis Group, Boca Raton, FL, 2007, 644–648.
149. “A unified approach for assessing agreement for continuous and categorical data” (with L. Lin and W. Wu), *Journal of Biopharmaceutical Statistics* **17** (2007), 629–652.
150. “Inhibition of estrogen independent mammary carcinogenesis by disruption of growth hormone signaling” (with X. Zhang, R. G. Mehta, D. D. Lantvit, K. T. Coschigano, J. J. Kopchick, J. E. Green, K. T. Christov, T. G. Unterman and S. M. Swanson), *Carcinogenesis* **28** (2007), 143–150 .
151. “Disruption of growth hormone signaling retards prostate carcinogenesis in the Probasin/Tag rat” (with Z. Wang, R. M. Luque, R. D. Kineman, V. H. Ray, K. T. Christov, D. D. Lantvit, T. Shirai, T. G. Unterman, M. C. Bosland, G. S. Prins and S. M. Swanson), *Endocrinology* **149** (2008), 1366–1376.
152. “Locally D-optimal designs based on a class of composed models resulted from blending Emax and one-compartment models” (with X. Fang), *Annals of Statistics* **36** (2008), 428–444.
153. “Crossover designs based on type I orthogonal arrays for a self and simple mixed carryover effects models with correlated errors” (with Z. Yan), *Journal of Statistical Planning and Inference* **138** (2008), 2201–2213.
154. “Statistical scoring procedures applicable to laboratory performance evaluation” (with G. Su and W. E. Streets), *Journal of Statistical Planning and Inference* **138** (2008), 3336–3349.
155. “Surveillance strategies for detection of change point in incidence rate based on exponentially weighted moving average methods” (with Y. Dong and B. K. Sinha), *Journal of The American Statistical Association* **103** (2008), 843–853.
156. “A statistical approach to assessment of agreement involving multiple raters” (with C. Lou and B. K. Sinha), *Communications in Statistics - Theory & Methods* **38** (2009), 2899–2922.

157. “Cluster orthogonal arrays and their applications to factorial designs” (with H. Zhu), *Journal of Statistics and Applications* **4** (2009), 313–326.
158. “Safety and efficacy of black cohosh and red clover for the management of vasomotor symptoms: a randomized controlled trial” (with S. Geller, L. Shulman, R. van Breeme, S. Banuvar, Y. Zhou, G. Epstein, D. Nikolic, E. Krause, E. Piersen, J. Bolton, G. Pauli and N. Farnsworth), *Menopause* **16** (2009), 1156–1166.
159. “Pharmacokinetics of 23-epi-26-deoxyactein in women following oral administration of a standardized extract of black cohosh” (with R. B. van Breemen, W. Liang, S. Banuvar, L. P. Shulman, Y. Pang, Y. Tao, D. Nikolic, D. S. Fabricant, S. N. Chen, J. L. Bolton, G. F. Pauli, C. E. Piersen, E. C. Krause, S. E. Geller and N. R. Farnsworth), *Clinical Pharmacology and Therapeutics* **87** (2010), 219–225.
160. “Totally balanced test-control incomplete crossover designs and their statistical applications” (with W. Zheng), *Contemporary Mathematics, American Mathematical Society* **531** (2010), 43–58.
161. “Optimal and Efficient Crossover Designs for Test-Control Study When Subject Effects are Random” (with W. Zheng), *Journal of American Statistical Association* **105** (2010), 1581–1592.
162. “An Effective Algorithm for Searching for D-optimal Saturated Two-level factorial Design” (with H. Zhu), *Journal of Statistical Theory and Applications* **10** (2011), 209–228.
163. “Robustness of the Simultaneous Estimators of Location and Scale from Approximating a Histogram by a Normal Density Curve” (with G. Su), *The American Statistician*, in press.