

## CURRICULUM VITAE

**Name:** Heping Zhang, Ph.D.

**Education:**

B.S.	Jiangxi Normal University,	1982
M.S.	Huazhong Normal University	1986
Ph.D.	Stanford University	1991

**Career:**

1982-1987	Instructor, Departments of Mathematics and Computer Science, Jiangxi Normal University, China
1987-1991	Teaching Assistant, Department of Statistics, Stanford University, Stanford, CA
1989-1991	Research Assistant, Department of Health Research and Policy, Stanford University, Stanford, CA
1991	Postdoctoral Fellow, Stanford School of Medicine, Stanford, CA
1991	Postdoctoral Fellow, Statistics Programs, Mathematical Sciences Research Institute, Berkeley, CA
1992-1997	Assistant Professor of Public Health (Biostatistics), Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT
1992-1997	Assistant Professor of Statistics (joint appointment), Department of Statistics, Yale University, New Haven, CT
1995-1997	Assistant Professor of Child Study (joint appointment), Child Study Center, Yale University School of Medicine, New Haven, CT
1997-1998	Statistical Consultant, Rhone-Poulenc Rorer Central Research, PA
1998-2000	Statistical Consultant, International Consortium for Research on the Health Effects of Radiation
1997-2001	Associate Professor of Public Health (Biostatistics, with term), Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT
1997-2001	Associate Professor of Child Study Center (joint appointment), Yale University School of Medicine, New Haven, CT
1997-2001	Associate Professor of Statistics (joint appointment), Department of Statistics, Yale University, New Haven, CT
1999-	Statistical Consultant, Salford Systems, San Diego, CA
2000	Visiting Professor, Zurich University, Switzerland
2001-	Statistical Consultant, Interleukin Genetics, Waltham, MA
2001-	Associate Professor (with tenure) of Public Health (Biostatistics), Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT
2001-2003	Statistical Consultant, Aventis, NJ
2001-2003	Associate Professor (with tenure) of Biostatistics, Child Study and Statistics (joint appointment), Yale University School of Medicine, New Haven, CT
2003-	Professor (with tenure) of Biostatistics and Child Study
2004-	Statistical Consultant, Iberica Inc., Japan

**Professional Honors or Recognition:**

1986	No. 1 ranking, statistics examination of young Chinese statisticians to study abroad.
1993	New researcher travel award, Institute of Mathematical Statistics.
1994	FIRST Award, National Institutes of Health
1995	New researcher travel award, Institute of Mathematical Statistics.
1995	Travel award, American Statistical Association, International statistical Institute and National Science Foundation.
1995	Elected Ordinary Member, International Statistical Institute
2000	Fellow, American Statistical Association
2004	Independent Scientist Award, National Institutes of Health

**Short Courses:**

August 1999	Software development and applications of classification trees, Joint meeting of the American Statistical Association, Baltimore
February 2001	Recursive Partitioning in the Health Sciences with Emphasis on Genetics, Deming Conference
October 2001	Recursive Partitioning in the Health Sciences with Emphasis on Genetics, National Institute of Health Research, Taiwan

**Invited Presentations Since 2001:**

<b>Title</b>	<b>Institution/Organization</b>	<b>Department</b>	<b>Dates</b>
Genomics/ Bioinformatics	Case Western Reserve University	Department of Biostatistics	April 14, 2005
Genomics/ Bioinformatics	University of Hong Kong		January 27, 2005
Genetic analysis of Ordinal Traits	Brown University	Center for Statistical Sciences	December 22, 2004
New Inference Concepts for Analysing Complex Data	Mathematisches Forschungsinstitut Oberwolfach		November 16, 2004
Genetic analysis of Ordinal Traits	Tulane University	Department of Biostatistics	October 21, 2004
Genetic analysis of Ordinal Traits	University of Michigan	Department of Statistics	October 7, 2004
Genetic analysis of Ordinal Traits	Rutgers University	Department of Statistics	September 29, 2004
Microsatellites vs. SNPs	Genetic Analysis Workshop 14		September 9, 2004
Data Reduction	Bernoulli Society	The 6 <sup>th</sup> World	July 30, 2004

		Congress Meeting of the Society	
Genomics/ Bioinformatics	ICSA	International Conference	July 21, 2004
Genomics/ Bioinformatics	Kurume University, Japan	Biostatistics Center	July 17, 2004
Genomics/ Bioinformatics	MIT/Harvard University/Massachusetts General Hospital	Martinos Center for Biomedical Imaging	May 26, 2004
Genetic analysis of Ordinal Traits	Columbia Psychiatric Institute	Columbia-Upenn-Yale Forum	May 11, 2004
Recursive Partitioning in Cancer Research	MD Anderson Cancer Center	Biostatistics/Epidemiology	December 19, 2003
Genetic analysis of Ordinal Traits	ASA Houston Chapter	Statistics Rice University	December 9, 2003
Genetic Epidemiology of Ordinal Traits	Boston University	Mathematics and Statistics	November 20, 2003
Genetic Epidemiology of Ordinal Traits	Feng-Chia University, Taiwan	Applied Mathematics	October 29, 2003
Cancer Diagnosis, Trees, and Bioinformatics	Providence University, Taiwan	Applied Mathematics	October 29, 2003
Genetic Epidemiology of Ordinal Traits	Academia Sinica, Taiwan	Statistics Institute	October 27, 2003
Cancer Diagnosis, Trees, and Bioinformatics	Dong-Hwa University, Taiwan	Mathematics	October 24, 2003
Cancer Diagnosis, Trees, and Bioinformatics	Tamkang University, Taiwan	Mathematics	October 21, 2003
Genetic Epidemiology of Ordinal Traits	York University	Mathematics and Statistics	September 19, 2003
Cancer Diagnosis, Trees, and Bioinformatics	University of Toronto	Statistics	September 18, 2003
Cancer Diagnosis, Trees, and Bioinformatics	Princeton University	Population Study	September 12, 2003
Cancer Diagnosis, Trees, and Bioinformatics	Bristol-Myers Squibb	ASA Chapter of Connecticut	January 23, 2003

MASAL	Harvard University School of Public Health	Biostatistics	December 12, 2002
Cancer Diagnosis, Trees, and Bioinformatics	University of New Orleans	Keynote speech, ASA Chapter Meeting of Louisiana	November 22, 2002
Genetic Epidemiology of Ordinal Traits	Harvard University School of Public Health	Genetic Epi Colloquium on Mental Health	November 20, 2002
Genetic Epidemiology of Ordinal Traits	Yale University School of Public Health	Chronic Disease Epidemiology	November 19, 2002
Cancer Diagnosis, Trees, and Bioinformatics	Princeton University	Emerging Information Technology Conference	November 2, 2002
Cancer Diagnosis, Trees, and Bioinformatics	Micrarray Analysis Retreat	NSF-funded Network	September 18, 2002
Cancer Diagnosis, Trees, and Bioinformatics	Joint Statistical Meeting		August 14, 2002
Cancer Diagnosis, Trees, and Bioinformatics	University of Tennessee	Data Mining Conference	June 23, 2002
Cancer Diagnosis, Trees, and Bioinformatics	University of Illinois	IISA	June 14, 2002
Genetic Epidemiology of Ordinal Traits	Stanford University	Joint Statistics/Biostatistics	May 16, 2002
Genetic Epidemiology of Ordinal Traits	UC Berkeley	Statistics	May 14, 2002
MASAL	ENAR		March 18, 2002
Cancer Diagnosis, Trees, and Bioinformatics	Interleukin Genetics, Waltham, MA		December 6, 2001
Workshop on trees and splines and their applications in bioinformatics	National Health Research Institutes, Taiwan	Division of Biostatistics and Bioinformatics	October 16 and 17, 2001
Analysis of Longitudinal Data	Humboldt University Berlin, Germany	National research center on quantification and simulation of economic processes	October 5, 2001

Cancer Diagnosis, Trees, and Bioinformatics	Hong Kong	ICSA	August 19, 2001
Search Linear Directions in Nonparametric Regression	Chicago, IL	ICSA	June 10, 2001
Short Course on Classification Trees	New Jersey	Deming Conference	April 23, 2001
Cancer Diagnosis, Trees, and Bioinformatics	University of Texas, Houston, TX	Human Genetic Center	April 5, 2001
Analysis of Longitudinal Data	Columbia University	Statistics	April 3, 2001
Analysis of Longitudinal Data	University of California at SF, CA	Biostatistics	March 26, 2001
Cancer Diagnosis, Trees, and Bioinformatics	SF, CA	ASA Chapter	March 22, 2001
Analysis of Longitudinal Data	Mathematical Science Research Institute, CA	Nonparametric Classification Workshop	March 21, 2001
Frailty Model of Segregation Analysis	Brown University, RI	Center of Statistical Science	February 26, 2001

**Professional Service:**

- 1997 Special Emphasis Panel, National Heart, Lung, and Blood Institute
- 1999- Contributing Editor, Current Index to Statistics
- 2000- Associate Editor, Biometrics
- 2000- Member, NIH Epidemiological Disease Control Study Section 1
- 2000 Reviewer, Army Research Office, U.S. Department of Army
- 2001 Member, NIH/NIDDK Ad hoc study section
- 2001 Member, NIH/NIDA Ad hoc study section
- 2001- Editor, Frontiers of Bioscience
- 2001- Board of Directors, International Chinese Statistical Association
- 2001 Guest Editor, Statistical Methods in Medical Research
- 2001 Program Committee, New England Statistical Symposium
- 2001- The Council of Healthcare Advisors
- 2001- Editor, Series in Biostatistics, World Scientific Publisher Co., Inc.
- 2001 Reviewer, The Ohio Board of Regents
- 2001 Member, Program Committee, ASA Connecticut Chapter
- 2002 Reviewer, National Science Foundation
- 2002 Reviewer, Michael Smith Foundation for Health Research
- 2002 Member, NIH Ad hoc study section on minority training program
- 2002 Member, Editorial Board, Journal of Modern Statistical Analysis

2002 Reviewer, Medical Research Council, UK  
2002 Special Advisor to the President, ASA Connecticut Chapter  
2004 Member, ENAR 2004 Program Committee  
2004- Ad Hoc Member, NIH Behavioral Genetics and Epidemiology  
Study Section (BGES)  
2004 Ad Hoc Member, NIH Health of Population Study Section  
2004- Deputy Head, Scientific Advisory Committee, Center for  
Statistical Sciences, Chinese Academy of Sciences

Reviewed articles for Annals of Statistics, Journal of American Statistical Association, Biometrics, Biostatistics, Technometrics, Journal of Computational and Graphical Statistics, Statistical Methods in Medical Research, Probability and Statistics Letters, Communications in Statistics, Journal of National Cancer Institute, American Journal of Human Genetics, Annals of Human Genetics, American Journal of Epidemiology, Annals of Epidemiology, Genetic Epidemiology, Epidemiology, Annals of Human Genetics, Canadian Journal of Statistics, Journal of Clinical Epidemiology, Magnetic Resonance Imaging, Methods in Psychiatric Research, Biostatistics, Nonlinear Analysis, Journal of Child Psychology and Psychiatry, The Federation of European Biochemical Societies Letters, Genetical Research, Bioinformatics, Frontiers of Bioscience, PNAS.

## **Bibliography:**

### **PEER REVIEWED ORIGINAL RESEARCH**

#### **• Statistical Methodology**

1. Knowles, M., Siegmund, D., and Zhang, H.P. Confidence regions in semilinear regression. *Biometrika*, 78:15-31, 1991.
2. Zhang, H.P. Image restoration: flexible neighborhood systems and iterated conditional expectations. *Statistica Sinica*, 3:117-139, 1993.
3. Siegmund, D., and Zhang, H.P. The expected number of local maxima of a random field and the volume of tubes. *Annals of Statistics*, 21:1948-66, 1993.
4. Garber, A. Olshen, R., Zhang, H.P. and Venkatraman, E.S. Predicting high-risk cholesterol levels. *International Statistical Review*, 62:203-228, 1994.
5. Zhang, H.P. Confidence regions in linear functional relationship. *Annals of Statistics*, 22:49-66, 1994.
6. Siegmund, D., and Zhang, H.P. Confidence regions in broken line regression. *IMS Lecture Notes on Change-Point Problems*, 23:292-316.
7. Zhang, H.P. Detecting change points and monitoring biomedical data. *Communications in Statistics: Theory and Methods*, 24:1307-1324, 1995.
8. Zhang, H.P. Comparison of linear models with two covariance components. *Acta Mathematicae Applicata Sinica*, 11, 1988.
9. Zhang, H.P. Maximum correlation and splines. *Technometrics*, 36:196-201, 1994.
10. Zhang, H.P. Splitting criteria in Survival trees, *Statistical Series--Springer Lecture Notes*, 104:305-313, 1995.
11. Zhang, H.P., Holford, T., and Bracken, M. A tree-based method in prospective studies. *Statistics in Medicine*, 15:37-50, 1995.
12. Zhang, H.P. Multivariate adaptive splines for longitudinal data. *Journal of Computational and Graphic Statistics*, 6: 74-91, 1997.
13. Zhang, H.P. Analysis of infant growth curves using MASAL. *Biometrics*, 55: 452-459, 1999.
14. Zhang, H.P. and Zelterman, D. Binary regression for risks in excess of subject specific thresholds. *Biometrics*, 55: 1247-1251, 1999.
15. Zhang, H.P. Classification trees for multiple binary responses. *Journal of the American Statistical Association*, 93: 180-193, 1998.
16. Li, Z. and Zhang, H.P. Mapping quantitative trait loci in humans using both extreme discordant and concordant sib pairs: A unified approach for meta-analysis. *Communication in Statistics*, 29: 1115-1127, 2000.
17. Zhang, H.P. and Merikangas, K. A frailty model of segregation analysis: Understanding the familial transmission of alcoholism. *Biometrics*, 56:815-823, 2000.
18. Zhang, H.P. Mixed effects multivariate adaptive splines model. In *Nonlinear Estimation and Classification*, Eds. Denison, Hansen, Holmes, and Yu, *Springer Lecture Notes in Statistical Series*, 171: 293-302, 2002.
19. Zhang, H.P., Feng, R., and Zhu, H.T. A Latent Variable Model of Segregation Analysis for Ordinal Traits. *Journal of the American Statistical Association*, 98: 1023-1034, 2003.
20. Zhang, H.P., Yu, C.Y., Zhu, H.T., and Shi, J. Identification of Linear Directions in Multivariate Adaptive Spline Models. *Journal of the American Statistical Association*, 98: 369-376, 2003.
21. Zhu, H.T. and Zhang, H.P. Hypothesis testing in mixture regression models. *Journal of the Royal Statistical Society – Series B*, 66: 3-16, 2004.

22. Zhu, H.T. and Zhang, H.P. A diagnostic procedure based on local influence. *Biometrika*, 91: 579–589, 2004.
- **Genetics/Bioinformatics**
23. Risch, N.R., and Zhang, H.P. Discordant sib pairs: The method of choice for mapping quantitative trait loci in humans. *Science*, 268:1584-1589, 1995.
24. Risch, N. and Zhang, H.P. Mapping quantitative trait loci with extreme discordant sib pairs: sample size considerations. *American Journal of Human Genetics*, 58:836-843, 1996.
25. Zhang H.P. and Risch, N. Mapping quantitative trait loci in humans using extreme concordant sib pairs: sampling by parental phenotypes. *American Journal of Human Genetics*, 59:951-957, 1996.
26. Zhao, H.Y., Zhang, H.P., and Rotter, J. Cost effective sib pair designs in mapping quantitative trait loci. *American Journal of Human Genetics*, 60: 1211-1221, 1997.
27. Zhang, H.P., Zhao, H.Y., and Merikangas, K. Strategies to identify genes for complex diseases. *Annals of Medicine*, 29: 493-498, 1997.
28. Zhang, H.P. and Bonney, G. Use of classification trees for association studies. *Genetic Epidemiology*, 19: 323-332, 2000.
29. Leckman, J.F., Zhang, H.P., Alsobrook, J.P., and Pauls, D.L. Symptom dimensions in Obsessive-compulsive disorder: Toward quantitative phenotypes. *American Journal of Medical Genetics (Neuropsychiatric Genetics)*, 105: 28-30, 2001.
30. Zhang, H.P. and Yu, C.Y. Tree-based analysis of microarray data for classifying breast cancer. *Frontiers in Bioscience 7*: c63-67, 2002.
31. Zhang, H.P. Leckman, J.F., Pauls, D.L., Tsai, C.-P., Kidd, K.K., Campos, M.R. and The Tourette Syndrome Association International Consortium for Genetics. Genome wide scan of hoarding in sibling pairs both diagnosed with Gilles de la Tourette Syndrome. *American Journal of Human Genetics*, 70:896-904, 2002.
32. Zhang, H.P., Yu, C-Y, Singer, B. and Xiong, M. Recursive Partitioning for Tumor Classification with Gene Expression Microarray Data. *Proceedings of the National Academy of Sciences USA*, 98: 6730-6735, 2001.
33. Zhang, H.P., Tsai, C.-P., Yu, C.-Y., and Bonney, G. Tree-based linkage and association analyses of asthma. *Genetic Epidemiology*, 21: S317-S322, 2001.
34. Zhang, H.P., Yu, C.Y., and Singer, B. Cell and Tumor Classification using Gene Expression Data: Construction of Forests. *Proceedings of the National Academy of Sciences USA*, 100: 4168-4172, 2003.
35. Curristin, S.M., Cao, A.J., Stewart, W.B., Zhang, H.P., Madri, J.A., Morrow, J.S., and Ment, L.R. Disrupted synaptic development in the hypoxic newborn brain. *Proceedings of the National Academy of Sciences USA*, 99: 15729-15734, 2002.
36. Leckman, J.F., Pauls, D.L., Zhang, H.P., Rosario-Campos, M.C., Katsovich, L., Kidd, K.K., Pakstis, A.J., Alsobrook, J.P., Robertson, M.M., McMahon, W.M, Walkup, J.T., van de Wetering, B. J. M., King, R.A., Cohen, D.J. and the Tourette Syndrome Association International Consortium for Genetics. Obsessive-compulsive symptom dimensions in affected sibling pairs diagnosed with Gilles de la Tourette Syndrome. *American Journal of Medical Genetics, Part B - Neuropsychiatric Genetics*, 116B (1): 60-68, 2003.
37. Zhu, H.T., Yu, C.Y., and Zhang, H.P. Tree-based Disease Classification Using Protein Data. *Proteomics*, 3: 1673-1677, 2003.
38. Yu, C.Y. and Zhang, H.P. Use of a Secondary Splitting Criterion in Classification Forest Construction. In *Statistical Data Mining & Knowledge Discovery*, ed. H. Bozdogan,

- Chapman & Hall/CRC, 487 – 495, 2003.
39. Duan, F.H. and Zhang, H.P. Correcting the loss of cell-cycle synchrony in clustering analysis of microarray data using weights. *Bioinformatics*, 20: 1766-1771, 2004.
  40. Gelernter, J., Liu, X.X., Hesselbrock, V. Page, G. P., Goddard, A. and Zhang, H.P. Results of a genomewide linkage scan: Support for chromosomes 9 and 11 loci increasing risk for cigarette smoking. *American Journal of Medical Genetics (Neuropsychiatric Genetics)*, 128B: 94-101, 2004.
  41. Feng, R., Leckman, J., and Zhang, H.P. Linkage analysis of ordinal traits for pedigree data. *Proceedings of the National Academy of Sciences USA*, 101: 16739-16744, 2004.
- **Medical and Public Health Research**
42. Zhang, H.P. and Bracken, M.B. A tree-based two-stage risk factor analysis of spontaneous abortion. *American Journal of Epidemiology*, 144:989-996, 1996.
  43. Peterson, B., Zhang, H., et al. Risk factors for presenting problems in child psychiatric emergencies. *Journal of American Academy of Child and Adolescent Psychiatry*, 35:1162-1173, 1996.
  44. Battilana, C., Zhang, H.P., Olshen, R., Wexler, L., and Myers, B. PAH extraction and the estimation of plasma flow in the diseased human kidney. *American Journal of Physiology*, 261:F726-33, 1991.
  45. Seifer, D., Roa, L., Keefe, D., Zhang, H.P., Goodman, S., Jones, E., Naftolin, F. Increasing hypothalamic arcuate nucleus glial peroxidase activity in aging female rats is reduced by an antiestrogen and a gonadotropin-releasing hormone agonist. *Menopause*, 83-90, 1994.
  46. Zhang, H.P., and Bracken, M. Tree-based risk factor analysis of preterm delivery and small-for-gestational-age birth. *American Journal of Epidemiology*, 141: 70-78, 1995.
  47. Carmelli, D., Zhang, H.P., Swan, G.E. Obesity and 33-year follow-up for coronary heart disease and cancer mortality. *Epidemiology*, 8: 378-383, 1997.
  48. Leckman, J.L., Grice, D., Boardman, J., Zhang, H.P., et al. Symptoms of obsessive compulsive disorder. *American Journal of Psychiatry*, 154: 911-917, 1997.
  49. Peterson, B., Skudlarski, P., Anderson, A., Zhang, H.P. et al. Tourette's Syndrome: A failure of subcortical inhibition. *Archives of General Psychiatry*, 55: 326-333, 1998.
  50. Peterson, B., Zhang, H.P., Anderson, G., and Leckman, J. A double-blind, placebo-controlled, crossover trial of an antiandrogen in the treatment of Tourette's syndrome. *Journal of Clinical Psychopharmacology*, 18: 324-331, 1998.
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  52. Leckman, J.F., Zhang, H.P., Vitale, A., Lahnin, F., Lynch, K., Bondi C., Kim, Y.S., and Peterson, B.S. Course of tic severity in Tourette's Syndrome: The first two decades. *Pediatrics*, 102: 14-19, 1998.
  53. Merikangas, K.R., Stolar, M, Stevens, D.E., Goulet, J., Preisig, M., Fenton, B., Zhang, H.P., O'Malley, S., Rounsaville, B.J. Familial transmission of substance use disorders. *Archives of General Psychiatry*, 55: 973-979, 1998.
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56. Peterson, B.S., Leckman, J.F., Tucker, D., Scahill, L., Staib L., Zhang, H.P., King, R., Cohen, D.J., Gore, J.C., and Lombroso, P. Preliminary findings of antistreptococcal antibody titers and basal ganglia volumes in Tic, Obsessive-Compulsive, and Attention-Deficit/Hyperactivity disorders. *Archives of General Psychiatry*, 57: 364-372, 2000.
  57. Zhang, H.P., Triche, E., and Leaderer, B. A Model for the Analysis of Binary Time Series of Respiratory Symptoms. *American Journal of Epidemiology*, 151: 1206-1215, 2000.
  58. Robbins J., Vaccarino, V., Zhang, H.P., and Kasl, S. Excess type 2 diabetes in African-American women and men aged 40-74 and socioeconomic status: evidence from the Third National Health and Nutrition Examination Survey. *Journal of Epidemiology and Community Health*, 54: 839-845, 2000.
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- Leckman, J.F., Staib, L. Basal ganglia volumes in patients with Gilles de la Tourette Syndrome. *Archives of General Psychiatry*, 60: 415-424, 2003.
70. Findley, D.B., Leckman, J.F., Katsovich, L, Lin, H.Q., Zhang, H.P., Grantz, H., Otko, J., Lombroso, P.J., and King, R.A. Development of the Yale Children's Global Stress Index (YCGSI) and Its Application in Children and Adolescents With Tourette's Syndrome and Obsessive-Compulsive Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(4): 450-457, 2003.
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  72. Psoter, W.J., Morse, D.E., Pendryns, D.G., Zhang, H.P., and Mayne, S.T. Median Eruption Ages of the Primary Dentition: White and Hispanic Arizona Children. *Pediatric Dentistry*, 25: 257-261, 2003.
  73. Zhu, H.T. and Zhang, H.P. Structure mixture regression models. In H. Zhang and J. Huang (eds.) *Development of Modern Statistics and Related Topics*. World Scientific Publishing Company, Singapore, pp. 272 – 287, 2003.
  74. Merikangas, K.R., Zhang, H.P., Acharyya, S., and Angst, J. Longitudinal trajectories of depression and anxiety in a prospective community study: the Zurich Cohort Study. *Archives of General Psychiatry*, 60: 993-1000, 2003.
  75. Mayes, L., Cicchetti, D., Acharyya, S., and Zhang, H.P.: Developmental trajectories of cocaine-and-other-drug-exposed and non-cocaine-exposed children. *Journal of Developmental and Behavioral Pediatrics*, 24: 323-335, 2003.
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### **BOOKS AND SPECIAL ISSUES**

78. Zhang, H.P and Singer, B. *Recursive Partitioning in the Health Sciences*. Springer Verlag, 1999.
79. Zhang, H.P. *Statistics and Bioinformatics in Medicine*. Frontiers in Bioscience 7, 2002.
80. Zhang, H.P and Huang, J. (eds.) *Development of Modern Statistics and Related Topics*. World Scientific Publishing Company, Singapore, 2003.

### **REVIEWS AND EDITORIALS**

81. Zhang, H.P. and Bracken, M.B. Tree-based risk factor analysis for spontaneous abortion. *Ob/Gyn Digest*. 19-21, September, 1997.
82. Zhang, H.P., Crowley, J., Sox, H., and Olshen, R.A. Tree structured statistical methods. *Encyclopedia of Biostatistics*, Wiley, Chichester, England, 6: 4561-4573, 1998.
83. Zhang, H.P. Comment on Bayesian CART model search. *Journal of the American Statistical Association*, 93: 948-950, 1998.
84. Peterson, B.S., Leckman, J.F., Lombroso, P., Zhang, H.P., Lynch K., Carter, A.S., Pauls, D.L., and Cohen, D.J. Environmental risk and protective factors. In J.F. Leckman and

- D.J. Cohen (eds) *Tourette's Syndrome – Tics, Obsessions, Compulsions: Developmental Psychopathology and Clinical Care*, Wiley, New York, pp. 213-229, 1999.
85. Zhang, H.P. Sick building syndrome. *Encyclopedia of Environmetrics*, eds. A. H. El-Shaarawi and W. Piegorisch, Wiley, Chichester, England, 4: 1998-1999, 2002.
  86. Tsai, C.P., Acharyya, S., Yu, C.Y., and Zhang, H.P. Tree-based methods in genetic and genomic studies. In *Recent Research Developments in Human Genetics*, 1: 137-145, Research Signpost, Kerala, India, 2002.
  87. Zhang, H.P. Tree-based methods. In J. Q. Fang and Y.Lu (eds) *Advanced Medical Statistics*. World Science Publisher, Singapore, pp.1029-1045, 2003.
  88. Zhang, H.P. Multivariate adaptive splines in the analysis of longitudinal and growth curve data. *Statistical Methods in Medical Research*, 13, 63-82, 2004.
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  90. Zhang, H.P. Recursive partitioning and tree-based methods. In J. E. Gentle, W. Haerdle, Y. Mori (eds) *Handbook of Computational Statistics*. pp. 813-840, Springer, Berlin, 2004.
  91. Zhang, H.P. Tree-based Cancer Classification and Diagnosis Using Gene Expression Data. In *The Oncogenomics Handbook: Under standing and Treating Cancer in the 21st Century*, pp. 43-51, Editors R. A. Shimkets and W. J. LaRochelle, The Humana Press, Totowa, N J.

#### **PAPERS IN PRESS OR INVITED**

92. Zhang, H.P. Multivariate adaptive splines in the analysis of longitudinal data (invited article). *Encyclopedia of Biostatistics*, 2<sup>nd</sup> Edition, Wiley, Chichester, England, 2004.
93. Kain, Z.N., Caldwell-Andrews, A.A., Maranets, I. McClain, B., Mayes, L.C., Feng, R., and Zhang, H.P. Preoperative Anxiety, Emergence Delirium and Postoperative Maladaptive Behaviors: Are they Related? A New Conceptual Framework. *Pediatrics Surgery*, 2004.
94. Psoter, W.J., Morse, D.E., Pendryns, D.G., Zhang, H.P., and Mayne, S.T. Review and historical evolution of caries patterns in the primary dentition during early childhood. *Pediatric Dentistry*, 2004.
95. Robbins J., Vaccarino, V., Zhang, H.P., and Kasl, S. Socioeconomic status and diagnosed diabetes incidence. *Diabetes Research & Clinical Practice*, 2004.
96. Carriero N., Osier, M.V., Cheung, K-H, Miller, P.L., Gerstein, M., Zhao, H.Y., Wu, B.L., Rifkin, S., Chang, J., Zhang, H.P., White, K., Williams, K., and Schultz, M. A "High Productivity/Low Maintenance" Approach to High Performance Computation for Biomedicine: Four Case Studies. *Journal of American Medical Informatics Association*, 2004.
97. Zhu, H.T. and Zhang, H.P. Asymptotics for estimation and testing procedures under loss of identifiability. *Journal of Multivariate Analysis*, 2005.
98. Leckman, J.F., Katsovich, L., Kawikova, I, Lin, H., Zhang, H.P., Krönig, H., Morshed, S., Parveen, S., Grantz, H., Lombroso, P.J. and King, R.A. Increased Serum Levels of IL-12 and Tumor Necrosis Factor-alpha in Tourette's Syndrome. *Biological Psychiatry*, 2005.
99. Zhang, H.P. Discussion on "Semilinear high-dimensional model for normalization of microarray data: a theoretical analysis and partial consistency" by by Fan, Peng and

Huang. *Journal of the American Statistical Association*, 2005.

**Grant History:** (Agency, grant number, title of grant, name of principal investigator, percent effort, total amount of grant and total amount per year, direct costs per year, beginning and end dates.) Separate expired grants from currently active grants. Begin with current grants. Include pending grants.

### Active

Project Number (Principal Investigator): R01DA12468-01 (Heping Zhang)  
Source: NIH/NIDA  
Title of Project (*and/or Subproject*): Statistical Methods for Correlated Substance Use Data  
Dates of Approved/Proposed Project: 08/01/00 – 7/31/05  
Annual Direct Costs / Percent Effort: \$200,000 / 20% (concurrent)

Project Number (Principal Investigator): K02 DA017713 (Heping Zhang)  
Source: NIH/NIDA  
Title of Project (*and/or Subproject*): Methodological Research on Substance Use  
Dates of Approved/Proposed Project: 4/1/04-3/31/09  
Annual Direct Costs / Percent Effort: \$141,000 / 75%

Project Number (Principal Investigator): R01DA016750 (Heping Zhang)  
Source: NIH/NIDA  
Title of Project (*and/or Subproject*): Statistical Methods in Genetic Studies of Substance Use  
Dates of Approved/Proposed Project: 4/1/04-6/30/08  
Annual Direct Costs / Percent Effort: \$175,000 /20% (concurrent)

Project Number (Principal Investigator): T32MH14235 (Heping Zhang)  
Source: NIH/NIMH  
Title of Project (*and/or Subproject*): Research Training in Mental Health Epidemiology  
Dates of Approved/Proposed Project: 07/01/02-06/30/05  
Annual Direct Costs / Percent Effort: \$354,460 /10% (concurrent)

Project Number (Principal Investigator): U01HD050062 (Heping Zhang)  
Source: NIH/NICHD  
Title of Project (*and/or Subproject*): Data Management, Statistics, and Informatics Core  
Dates of Approved/Proposed Project: 04/01/05-03/31/10  
Annual Direct Costs / Percent Effort: \$250,000 /15% (concurrent)

Project Number (Principal Investigator): R01HD37007 (Zeev Kain)  
Source: NIH/NICHD  
Title of Project (*and/or Subproject*): Psychological Influence on Postoperative Recovery  
Dates of Approved/Proposed Project: 4/1/03-3/30/08  
Annual Direct Costs / Percent Effort: \$550,000 /10%

Project Number (Principal Investigator): P01NS35476 (Laura Ment)  
Source: NIH  
Title of Project (*and/or Subproject*): Adaptive Mechanisms of Developing Brain  
Dates of Approved/Proposed Project: 4/1/03-3/30/08  
Annual Direct Costs / Percent Effort: \$1,000,000 / 10%

Project Number (Principal Investigator): R01 ES07456-07 (Brian Leaderer)  
Source: NIH/NIEHS  
Title of Project (*and/or Subproject*): Gene-Environment Interactions in Asthma Development

Dates of Approved/Proposed Project: 12/1/00 – 11/30/05  
Annual Direct Costs / Percent Effort: \$499,906/ 5%

Project Number (Principal Investigator): R01 DA06025 (Linda Mayes)  
Source: NIH/NIDA  
Title of Project (*and/or Subproject*): Arousal and Attention in Cocaine-Exposed Children  
Dates of Approved/Proposed Project: 12/1/03-05/31/08  
Annual Direct Costs / Percent Effort: \$550,000 /5%

Project Number (Principal Investigator): R01 DA017863 (Linda Mayes)  
Source: NIH/NIDA  
Title of Project (*and/or Subproject*): Cocaine-Exposed Children & ERP Studies of Neurocognition  
Dates of Approved/Proposed Project: 04/15/04-03/31/09 /5%

Project Number (Principal Investigator): R01MH061940 (James Leckman)  
Source: NIH/NIMH  
Title of Project (*and/or Subproject*): A Prospective Longitudinal Study of PANDAS  
Dates of Approved/Proposed Project: 9/1/01-8/31/06  
Annual Direct Costs / Percent Effort: \$550,000 / 5%

Project Number (Principal Investigator): R01HD42127 (Ami Klin)  
Source: NIH/NICHD  
Title of Project (*and/or Subproject*): Eye-Tracking Studies of Social Visual Pursuit in Autism  
Dates of Approved/Proposed Project: 10/1/02-11/30/07  
Annual Direct Costs / Percent Effort: \$250,000 /20%

**Completed**

Project Number (Principal Investigator): P01 MH49351 07(James Leckman)  
Source: NIH/NIMH  
Title of Project (*and/or Subproject*): Pathogenesis & Treatment of TS, OCD & Related Disorders  
Dates of Approved/Proposed Project: 09/01/96 – 03/30/03  
Annual Direct Costs / Percent Effort: \$1,671,472/ 20%

Project Number (Principal Investigator): R01 AA12044 (Heping Zhang)  
Source: NIAAA  
Title of Project (*and/or Subproject*): Pathways to Alcoholism through Psychopathology  
Dates of Approved/Proposed Project: 04/01/00 – 03/30/03  
Annual Direct Costs / Percent Effort: \$200,000/ 20%

Project Number (Principal Investigator): R01 AG16996 (Heping Zhang)  
Source: NIH/NIA  
Title of Project (*and/or Subproject*): Genetic epidemiology models and software  
Dates of Approved/Proposed Project: 10/01/98– 09/31/01  
Annual Direct Costs / Percent Effort: \$69,136 /10%

Project Number (Principal Investigator): R01 MH60220 (Heping Zhang)  
Source: NIH/NIMH  
Title of Project (*and/or Subproject*): Epidemiology: The National Comorbidity Survey Replication (subcontract)  
Dates of Approved/Proposed Project: 6/1/02-5/31/03  
Annual Direct Costs / Percent Effort: \$22,811/ 5%

Project Number (Principal Investigator): R01 MH46376 (Heping Zhang)

Source:	NIH/NIMH
Title of Project ( <i>and/or Subproject</i> ):	Mental Disorders as Risk Factors for Substance Disorders (subcontract)
Dates of Approved/Proposed Project:	7/1/02-6/30/03
Annual Direct Costs / Percent Effort:	\$86,477/ 5%
Project Number (Principal Investigator):	R01 MH59139(Bradley Peterson)
Source:	NIH/NIMH
Title of Project ( <i>and/or Subproject</i> ):	FMRI Studies of Impulse Control in Childhood Disorders
Dates of Approved/Proposed Project:	10/01/99 – 07/31/03
Annual Direct Costs / Percent Effort:	\$246,830/ 10%
Project Number (Principal Investigator):	R01MH052905 (Carolyn Mazure)
Source:	NIH/NIMH
Title of Project ( <i>and/or Subproject</i> ):	Stressors as Risk Factors in Unipolar Depression
Dates of Approved/Proposed Project:	9/1/94-8/31/97
Annual Direct Costs / Percent Effort:	\$82,137 / 5%
Project Number (Principal Investigator):	R29HD030712 (Heping Zhang)
Source:	NIH/NIMH
Title of Project ( <i>and/or Subproject</i> ):	Development of Statistical Methods for Perinatal Disease
Dates of Approved/Proposed Project:	5/1/94-4/30/00
Annual Direct Costs / Percent Effort:	\$70,000 / 5%
Project Number (Principal Investigator):	5R01DA012690 (Joel Gelernter)
Source:	NIH/NIDA
Title of Project ( <i>and/or Subproject</i> ):	Genetics of opioid dependence
Dates of Approved/Proposed Project:	8/1/00-7/31/05
Annual Direct Costs / Percent Effort:	\$86,477/ 5%

**PAST AND CURRENT STUDENTS SUPERVISED BY HEPING ZHANG, Ph.D.**

NAME	LEVEL	TRAINING PERIOD	PRIOR INSTITUTION	DEGREE AT ENTRY	RESEARCH TOPIC	CURRENT POSITION OR SOURCE OF FUNDING
Suddhasatta Acharyya	Postdoc	2000-2002	UC Santa Barbara	Ph.D.	Some problems in nonparametric resampling inference	Assistant Professor of Biostatistics, Brown University
Asri Adisasmita	Predoc	1996-2002	Yale	M.P.H.	Risk factor analysis of cleft lip and palate (CLP) and perinatal death (PND) in a national survey of Indonesian births	<a href="#">Staff, University Indonesia</a>
Michael I. Brodsky	Medical student	1995-1999	Yale	B.A.	Trajectories of weight gain in Prader Willi syndrome	Intern, UCLA–Neuropsychiatric Institute
Amy Byers	Predoc	1999-2004	Yale University	M.P.H.	Heritability and quality of filial relationships as predictors of depression in old age	Postdoc, Cornell University
Carmela Cappelli	Postdoc	2000-2001	Universita degli Studi di Napoli Federico II	Ph.D.	Methods for searching for the honest size tree in recursive partitioning	Assistant Professor, Universita degli Studi di Cassino, Italy
Fenghai Duan	Predoc	2000-2004	University of Alabama	M.S.	Integration of Biological Information into Yeast Modeling System	Completing Dissertation
Zhaofei Fan	Postdoc	1999-2000	Univeristy of Idaho	Ph.D.	Response of ponderosa pine to controlled-release fertilizers	Post-Doctoral Scientist, Post-Doctoral Scientist, USDA Forest Service
Rui Feng	Predoc	2001-2004	Johns Hopkins University	M.S.	A latent variable model for linkage analysis	Completing Dissertation
Brenda Fenton *	Predoc	1991-1997	McGill University	M.S.	Parental and familial correlates of childhood anxiety	Biostatistician, Department of Psychiatry, University of Geneva, Geneva, Switzerland
Shur-Fen Gau	Predoc	1998-2001	National Sun Yat-sen University, Taiwan	M.D.	Individual and familial correlates and outcomes of attention deficit hyperactivity disorder: A longitudinal follow-up study of a high risk sample (High-risk children)	Assistant Professor, National Taiwan University, Taiwan
Musie Ghebremichael	Postdoc	2004		Ph.D.		
Young-Ju Kim	Postdoc	2003-2004	Purdue University	Ph.D.	Smoothing spline regression: scalable computation and cross validation	Postdoctoral Associate, Yale University
Ju Li	Predoc	1996-2003	University of Texas	M.S.	Rank tests of association for exchangeable paired survival data	Biostatistician, Abbott Laboratories
Kai Lih Liu	Predoc	1992-1996	National Taiwan University	M.P.H.	Cross-cultural comparison of the rates of alcoholism in Taiwan and the U.S.	Public Health Officer, Rhode Island Public Health Department

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NAME	LEVEL	TRAINING PERIOD	PRIOR INSTITUTION	DEGREE AT ENTRY	RESEARCH TOPIC	CURRENT POSITION OR SOURCE OF FUNDING
Jun Liu	Postdoc	2004	Rutgers University	Ph.D.		
Z. Ma	Predoc	1991-1995	University of Texas	M.S.	A Model Describing the Relationship of Cancer Incidence, Mortality and Survival	Biostatistician FDA
Kathleen McKay *	Predoc	1993-1998	Harvard University	B.A.	The moderating role of social isolation in the relationship of alcohol consumption and mortality	Epidemiologist, Child Health Center, Connecticut Children's Medical Center, Hartford, Connecticut
John Myers	Postdoc	2004		Ph.D.		
Walter Psoter	Predoc	1997-2001	New York University	Doctor of Dental Surgery	Patterns of Dental Caries Early Childhood	Assistant Professor, New York University; Associate Professor, University of Puerto Rico
Jessica Robbins *	Predoc	1995-1999	University of Pennsylvania	B.A.	Socio-economic status and non-insulin dependant diabetes mellitus	Epidemiologist, Philadelphia Department of Public Health
Lawrence Scahill	Predoc	1995-1997	Yale University	M.S.N.; M.P.H.	Epidemiology of attention deficit disorder (ADHS)	Associate Professor, Yale University Child Study Center
Jian Shi	Postdoc	2001-2002	Beijing University	Ph.D.	Vectorized random weighing bootstrap method and its applications	Associate Direction, Bioinformatics Center, Institute of System Sciences, China
Marilyn Stolar *	Predoc	1994-2003	Yale University	M.S.	Bayesian models of familial transmission of psychiatric disorders	Co-Director, Data Management and Statistical Analysis, Center for Interdisciplinary Research on AIDS (CIRA) Yale University
Chin-Pei Tsai	Postdoc	2000-2002	University of Minnesota	Ph.D.	Bayesian experimental design with multiple prior distributions	Assistant Professor of Statistics, Providence University, Taiwan
Nora Tu*	Predoc	1994-1998	Johns Hopkins University	M.S.	Gender differences in outcomes of congestive heart failure	Epidemiologist, Mutual of Omaha, Omaha, Nebraska
Shaoli Wang	Postdoc	2004	Penn State University	Ph.D.		
Xueqing Wang	Postdoc	2004		Ph.D.		
Yuanqing Ye	Postdoc	2002-2004	NC State University	Ph.D.	Semiclean rings and clean rings	Postdoctoral Associate, Yale University
Chang Yu	Predoc	1995-1998	University of Minesota	M.S.	A class of discrete distributions and its applications	Assistant Professor of Biostatistics, Vanderbilt University

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NAME	LEVEL	TRAINING PERIOD	PRIOR INSTITUTION	DEGREE AT ENTRY	RESEARCH TOPIC	CURRENT POSITION OR SOURCE OF FUNDING
Xiaoyun Zhong	Postdoc	2003-2004	UC Davis	Ph.D.	Multivariate survival analysis methods for mapping genes for complex diseases	Postdoctoral Associate, Yale University
Hongtu Zhu	Postdoc	2001-2003	Hong Kong Chinese University	Ph.D.	Statistical analyses of latent variable models	Assistant Professor of Clinical Biostatistics, Columbia University
Xueping Zong	Postdoc	2003-2004	Southeast University	Ph.D.	Statistical inference, geometry, and diagnostics for mixed effects models	Associate Professor of Statistics, Yangzhou University, China