

# CURRICULUM VITA

## Kenny Q Ye

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### EDUCATION

Institution Attended	From	To	Degree	Date	Field
University of Michigan	9/94	8/98	Ph.D.	8/98	Statistics
Michigan Tech University	9/92	5/94	M.S.	5/94	Mathematics
Tsinghua University	9/87	7/92	B.S.	7/92	Applied Math/Economics

### Doctoral Dissertation Topic

Latin Hypercube Designs For Computer Experiments

Research supervisor: Professor C. F. Jeff Wu. Presently Coca-Cola Chair Professor,  
School of Industrial & System Engr., Georgia Institute of Technology

### PROFESSIONAL EXPERIENCE

Full-time Teaching/Research Institution	Academic Rank and Field	From	To
State University of New York at Stony Brook	Assistant Professor Appl. Mathematics & Stat.	9/98	Present

## OTHER PROFESSIONAL EXPERIENCE

Institution	Title	From	To
Los Alamos National Laboratory	Visiting Faculty	6/03	7/03
Academia Sinica, Taiwan	Visiting Research Fellow	7/01	8/01
University of Michigan	Research Assistant	1/98	8/98
Ford Motor Company	Quality Engineer	1/96	12/97
University of Michigan	Graduate Student Instructor	9/94	12/95
Michigan Tech University	Teaching Assistant	9/92	5/94

## HONORS

Grants, awards, fellowships, honorary societies or degrees, etc.

## Grants and Research Contracts

(2003) *Factorial Designs, An Indicator Function Approach*, National Science Foundation. Total Amount: \$137,150 for three years (7/1/03-6/30/06)

(2004) *Searching For Gene Copy Imbalance In Children With Autism*, The Simons Foundation (Subcontract from Cold Spring Harbor Laboratory). Amount: \$74,000 for two years (1/1/04-12/31/05) PI: Michael Wigler (CSHL). My role in this project is to develop parametric and non-parametric statistical methods to correctly identify the gene-copy changes using microarray technology and link them to the genetic cause of autism.

## Pending Grant Proposal

(2004) *Gene Screening for Complex Diseases, A Bayesian Approach*, National Institute of Health. Total Amount Requested :\$1,856,000 for five years.(7/1/04-6/30/09)

## Honors and Awards

(2003) *Brumbaugh Award* from American Society for Quality. Founded in 1949, the Brumbaugh Award is presented for the paper, published in the preceding year, that has made the largest single contribution to the development of industrial application of quality control. The 2003 award is given my my paper “Analysis of Functional Response From Robust Design Study,” (co-authors: Nair, V., Taam, W.), *Journal of Quality Technology* 34, 355-370, 2002

Invited Speaker, Fall Technical Conference, Roanoke, VA, Oct 14-15, 2004

Invited Participant, MODA 7(Model Orientated Data Analysis) Conference, Heeze, The Netherland, June 14-18, 2004

Invited Participant, 2003 Experimental Design Workshop in Taipei, December 22-24, 2003

Invited Participant, First Canadian Workshops on Statistical Genomics, Toronto, September 3-5, 2003

Invited Participant, 57th Annual Quality Congress, Kansas City, MO, May 19-21, 2003

Invited Participant, GRONSTAT VI (Workshop on Gröbner bases and statistics), Menton, France, February 17-20, 2003

Invited Participant, Conference on New Directions in Experimental Design DAE 2003, Chicago, May 15-17, 2003

Session Organizer and Invited Participant, Design and Analysis of Experiments Workshop, Vancouver, Canada, July, 2002

Invited Participant, GRONSTAT V, New Orleans, September 4-6, 2001.

Invited Participant, GROSTAT III, Eindhoven, The Netherland September 9-10, 1999

## TEACHING ACTIVITIES

### Courses Taught: Graduate Level

Regression Analysis (with R/S-Plus)

Design of Experiments (with R/S-Plus)

Categorical Data Analysis (with SAS)

Statistical Computing (Monte-Carlo, Optimization, JAVA/MATLAB)

Data Analysis for Technical Managers (SUNY-Stony Brook Program in Seoul, Korea)

Courses Taught: Undergraduate Level

Probability

Survey in Probability and Statistics (for engineering majors)

Elements in Statistics (with Minitab)

Data Analysis (with Minitab)

Former and Current Ph.D. Students

Jung-Tsung Chiang (2002, Ph.D. in Applied Math and Statistics, SUNY at Stony Brook), “Multiple Outlier Detection in Linear Models Through Data-Splitting”;

Cheongeun Oh (2003, Ph.D. in Applied Math and Statistics, SUNY at Stony Brook), “Robust Bayesian Variable Selection”;

Ko-Jen Tsai, “Design Experiments for Model Discrimination”;

Kelly Namwoo Kim, “Data Analysis of Functional Responses”;

Mashiul Khan, Particle filtering hidden Markov models;

Seungtai Yoon, Microarray data analysis;

Melissa Farrazi, Bayesian variable selection with nuisance variables.

Former Undergraduate Advisees

Diana M. David (2004, B.S., Churchill Scholar, Rhode Scholar Finalist) Independent study in Bayesian Statistics.

Eugenia Murphy (2001, B.S.) Honor College Thesis “A R-Package for Designed Experiment Data Analysis”.

## PUBLICATIONS

## Papers in Refereed Journals: Statistical Methodology

“Geometric Isomorphism And Minimum Aberration For Factorial Designs With Quantitative Factors,” (with Cheng, S-W), *Annals of Statistics*, to appear

“A Note on Regular Designs,” *Statistica Sinica*, in press

“Blocked Non-regular Two-Level Factorial Design,” (with Cheng, S-W, Li, W.) *Technometrics*, in press

“Optimal Foldover Plans for Two Level Non-Regular Orthogonal Designs,” (with Li, W., Lin, K-J.) *Technometrics*, 45, 347-351, 2003

“Indicator Functions and Their Application in Two Level Factorial Designs,” *Annals of Statistics*, 31, 984-994, 2003

“Some properties of blocked and unblocked foldovers of 2 p-k designs,” (with Li, W.) *Statistica Sinica*, 13, 403-408, 2003

“A Method for Evaluating the Results of Bayesian Model Selection,” (with Suh, Y., and Mendell, N.R.) *Human Heredity*, 55, 147-152, 2003

“Locating Disease genes using Bayesian Variable Selection Methods” (with Oh, C., Qi, H., Mendell, N. R.) *BMC Genetics*, 4: S69, 2003

“Data Mining and Computationally Intensive Methods: Summary of Group 7 Contributions to Genetic Analysis Workshop 13,” (with Costello, T.J., Falk, C.) *Genetic Epidemiology*, 25, S57-S63, 2003

“Analysis of Functional Response From Robust Design Study,” (with Nair, V., Taam, W.), *Journal of Quality Technology* 34, 355-370, 2002 (*2003 Brumbaugh Award*)

“Step-down Testing Procedures for Unreplicated Factorial Experiments,” (with Wu, C.F.J., Hamada, M.), *Journal of Quality Technology* 33, 140-152, 2001

“Algorithmic Construction of Optimal Symmetric Latin Hypercube Designs,” (with Li, W., Sudjianto, A.) *Journal of Statistical Planning and Inference* 90, 145-159, 2000

“Critical Values of the Lenth Method for Unreplicated Factorial Designs,” (with Hamada, M.) *Journal of Quality Technology* 32, 57-66, 2000

“Orthogonal Column Latin Hypercubes and their Application in Computer Experiments,” *Journal of the American Statistical Association* 93, 1430-1439, 1998

“A Minimum Variance Kernel Estimator and a Discrete Frequency Polygon Estimator for Ordinal Contingency Tables,” (with Dong, J.) *Communications in Statistics, Theory and Methods* 25, 3217-3245, 1996

## Papers in Refereed Journals: Inter-disciplinary

“Microarray Analysis of Genome Copy Number Variation, (with Lucito, R., Healy, J., Alexander, J., Reiner, A., Esposito, D., Chi, M., Rodgers, L., Brady, A., Sebat, J., Troge, J., West, J., Rostan, S., Nguyen, K.C.Q., Powers, S., Olshen A., Venkatraman, E., Norton, L., and Wigler, M.) *Genome Research*, 13: 2291-2305, 2003

“Source of Uncertainty and Error in the simulation study of flow in porous media,” (with Glimm, J., Hou, S., Lee, Y., Sharp, D.), manuscript revised 2003, tentatively accepted by *Brazilian Journal of Computational and Applied Mathematics*

“Statistical Riemann Problems and a Composition Law for Errors in Numerical Solutions of Shock Physics Problems,” (with Glimm, J., Grove, J.W., Kang, Y., Lee, T., Li, X., Sharp, D.H., Yu Y., and Zhao, M.) manuscript revised on 2003, tentatively accepted by *SIAM Journal of Scientific Computing*.

“Adaptations of Trabecular Bone to Low Magnitude Vibrations Result in Increased Stiffness and More Uniform Stress and Strain Under Load,” (with Judex, S., Boyd, S., Qin, Y-X. Turner, S., Muller R., and Rubin, C.) *Annals of Biomedical Engineering*, 31, 12-20, 2003

“Uncertainty Quantification for Multiscale Simulations,” (with DeVolder, B, Glimm, J., Grove, J.W., Kang, Y., Lee, Y., Pao, K., Sharp, D.H.) *Journal of Fluids Engineering*, 124, 29-41, 2001

“Risk Management for Petroleum Reservoir Production, A simulation- based study of prediction,” (with Glimm, J., Hou, S., Kim, H., Lee, Y., Sharp, D., and Zou, Q.) *Computational Geosciences*, 5, 173-197, 2001

“A Probability Model For Errors in the Numerical Solutions of a Partial Differential Equation,” (with Glimm, J., Hou, S., Kim, H., Lee, Y., Sharp, D.) *Computational Fluid Dynamics Journal* 9, 2000

## Book Reviews

Book Review on *Statistical Tests on Mixed Linear Models*, *Technometrics*, **42** 214, 2000

Book Review on *Experiments: Planning, Analysis and Parameter Design Optimization* by Wu and Hamada, *Interfaces*, 33, 96-98, 2003

Book Review on *Case Studies in Bayesian Statistics Vol. VI* by Gatsonis, Kass, Carriquiry, Gleman, Higdon, Pauler, and Verdinelli (Editors), *Technometrics*, in press, 2004

## Conference Papers

“Geometric Aliasing, Generalized Defining Relations, and Gröbner basis: A New Look at Multi-level Factorial Designs,” *Report 99-056 Workshop GROSTAT III, EURANDOM, Eindhoven, The Netherland, 1999*

“Prediction of Oil Production with Confidence Intervals,” (with Glimm, J., Hou, S., Lee, Y., Sharp, D.) Society of Petroleum Engineering (SPE) Preprint 66350, 2001

“A Simple Model for Scale Up Error,” (with Glimm, J., Lee, Y.) *Contemporary Mathematics* 295, 241-251, 2002

“Solution Error Models for Uncertainty Quantification,” (with Glimm, J., Hou, S., Lee, Y., Sharp, D.) *Contemporary Mathematics*, 327, 115-140, 2003

“Prediction using Numerical Simulations, A Bayesian Framework for Uncertainty Quantification and its Statistical Challenge,” (with Glimm, J., Lee, Y., Sharp, D.) *Proceedings of the Fourth International Symposium on Uncertainty Modeling and Analysis*, IEEE, Computer Society, 2003

“A DNA microarray survey for gene expression changes in atrial fibrillation,” (with Karnik A, Saltman A, Tselentakis EV, Gaudette G, Dhundale A) *Journal Of The American College Of Cardiology* 41: 274A-274A Suppl. A, 2003

## Other Papers

“On Structure of Orthogonal Latin Hypercubes,” Technical Report, Department of Statistics, University of Michigan, 1997

“Visualization of dispersion effects of unreplicated factorial experiments,” manuscript 2000, under revision, submitted to *Journal of Quality Technology*

“An Algorithm for Sequentially Constructing Non-Isomorphic Orthogonal Designs and its Applications,” (with Sun, D.X., Li, W. ) SUNYSB Preprint, AMS-02-13

“The Use of Cramer  $V^2$  optimality for experiments with qualitative levels,” (with Sudjianto, A.) under revision, submitted to *IIE Transactions*, 2003

## INVITED LECTURES AND TALKS

1. “Bayesian Variable Selection for Gene-Screening”, Genetic Epidemiology Seminar, Columbia University, Oct. 9, 2003
2. “Pooling or not pooling in microarray experiments - an experimental design point of view,” First Canadian Workshops on Statistical Genomics, Toronto September 3-5, 2003
3. “Optimal Blocking for Non-Regular Factorial Designs,” Conference on New Directions in Experimental Design DAE 2003, Chicago, May, 2003
4. “Indicator Function and Its Application to Factorial Designs,” GROSTAT VI Workshop, Menton, France, Feb, 2003
5. “Error Analysis of Computer Experiments, Los Alamos National Laboratory,” Los Alamos, NM, November, 2002
6. “Indicator Function, A New Tool for Studying Factorial Design,” Design and Analysis of Experiments Workshop, Vancouver, Canada, July, 2002,
7. “Classification and aberration criteria of factorial designs with quantitative factors, a geometric approach,” The 2002 Taipei International Statistical Symposium and Bernoulli Society EAPR Conference, July, 2002
8. “Indicator Function and Its Application to Factorial Designs”, Department of Statistics, Columbia University, October 15, 2001
9. “Indicator Function and Its Application to Factorial Designs,” GROSTAT V Workshop, New Orleans, September 2001
10. “Indicator Function and Its Application to Two-Level Factorial Designs,” Colloquia, Institute of Statistical Science, Academia Sinica, Taipei, July, 2001
11. “Indicator Function and Application on Two Level Fractional Design,” Department of Statistics, Rutgers University, April, 2001
12. “Visualizing Dispersion Effect of Unreplicated Factorial Experiments,” Department of Management Science and Information Systems, Penn State University, December, 2000
13. “Indicator Function, Generalized Aberration and Uniformity of Two Level Fractional Design,” at Department of Statistics, Penn State University, December, 2000
14. “Visualizing Dispersion Effect of Unreplicated Factorial Experiments,” Avaya Labs, Avaya Inc., October, 2000
15. “Response surface designs and Gröbner bases,” GROSTAT III Workshop, EURANDOM, Eindhoven, The Netherland, September, 1999
16. “Using Orthogonal Latin Hypercubes in Response Surface Design,” The International Chinese Statistical Association 1999 Applied Statistics Symposium, Washington D.C., June, 1999

## OTHER PROFESSIONAL ACTIVITIES

Associate Editor, *Journal of Asian Information-Science-Life*, 2001-present

Study Panel for Alliance of Automobile Manufacturers, Effect of air pollution on public health, 2000

Review Panel for US Army Medical Research and Material Command, Prostate Cancer Research Program, 1999

Referee for Journals, 1998-2004

*Annals of Statistics,*

*Biometrika,*

*Technometrics,*

*The American Statistician,*

*Journal of Statistical Planning and Inferences,*

*Statistica Sinica,*

*Neuroscience Letters,*

*Statistics and Probability Letters,*

*Communications in Statistics,*

*Biometrical Journal,*

*Journal of Quality Technology*

Consulting

*Dr. Jessica Grurevich*, Dept. of Ecology and Evolution, SUNYSB

*Dr. Anthony Phillips*, Dept. of Mathematics, SUNYSB

*Dr. Helene Benveniste*, Medical Department, Brookhaven National Laboratory and Dept. of Anesthesiology, SUNYSB

*Dr. Dina Vivian*, Dept. of Psychology, SUNYSB

*Dr. John Dunn* and *Dr. Niels Van Der Lelie*, Biology Department Brookhaven National Laboratory

*Robocom*, Massapequa, NY

*Apace-ECM LLC*, Hauppauge, NY

*Ford Motor Company*, Dearborn, MI

*Mary Kate Reinhart*, CNP, Smithtown NY

*Thayer C. Lindauer*, Attorney of Law, Westlake Village, CA

Mentor, Westinghouse projects of two students from Hebrew Academy of Nassau County, 1999

Member of the American Statistical Association since 1993