

KYOUNGMI KIM, Ph. D.
Curriculum Vitae

Section on Statistical Genetics
Department of Biostatistics
School of Public Health
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ACADEMIC TRAINING

- 2003 Ph. D. in Statistics. University of Kentucky, Lexington, KY
Dissertation: "Envelope empirical likelihood ratio approach when additional information is known"
Advisor: Mai Zhou, Ph. D.
- 1999 M. S. in Applied Mathematics. University of Kentucky, Lexington, KY
- 1997 B. S. in Mathematics. The Chungnam National University, Teajon, South Korea

POSTDOCTORAL TRAINING

- 2003 – Present Postdoctoral Fellow of Section on Statistical Genetics, Department of Biostatistics, University of Alabama at Birmingham
Mentor: David B. Allison, Ph.D.

TEACHING AND PROFESSIONAL EXPERIENCE

- 8/2002 – 7/2003 Research Assistant,
University of Kentucky Cancer Program and Kentucky Cancer Registry,
Lexington, KY
Mentor: Thomas Tucker, Ph.D., Director of Kentucky Cancer Registry
- 5/2003 – 8/2003 Instructor, Department of Mathematics & Statistics, Lexington
Community College, Lexington, KY
- 8/2001 – 7/2003 Instructor, Department of Statistics, University of Kentucky, Lexington,
KY
- 8/1999 – 7/2001 Teaching Assistant, Department of Statistics, University of Kentucky,
Lexington, KY
- 8/1997 – 7/1999 Teaching Assistant, Department of Mathematics, University of Kentucky,
Lexington, KY

AWARDS AND HONORS

- 2005 Postdoctoral Career Enhancement Award
- 2004 Postdoctoral Career Enhancement Award
- 2003 R.L. Anderson Award for the best student of year
- 2003 Graduate student travel fellowship
- 2002 Graduate student travel award for the best paper. Joint Conference of the Korean Data and Information Science Society and the Korean Data Analysis Society
- 2002 R.L. Anderson award for the excellent student paper. The 2002 Summer Research Conference in Statistics sponsored by the Southern Regional Council on Statistics and American Statistics Association
- 2002 Graduate student travel award. The Twenty-fifth Annual Midwest Biopharmaceutical Statistics Workshop

RESEARCH EXPERIENCE AND TRAINING

- 2003 Short course on mathematical approaches to the analysis of complex phenotypes. The Jackson Laboratory, Bar Harbor, Maine
- 2004 Short course on QTL mapping in complex pedigree. Department of Animal Science, Iowa State University

PRESENTATIONS AND ABSTRACTS

- Kyoungmi Kim**, Grier P. Page, T. Mark Beasley, Stephen Barnes, and David Allison (2005) "A proposed metric for assessing the measurement quality of individual microarrays." The 2005 Gordon conference on Quantitative Genetics and Genomics, Ventura, CA
- Kyoungmi Kim** (2004) "Statistical methods for pleiotropy." Section on Statistical Genetics seminar, Department of Biostatistics, University of Alabama at Birmingham, Birmingham, AL
- Kyoungmi Kim**, Nengjun Yi, Eugene J. Eisen, David B. Allison, and Daniel Pomp (2004) "Bayesian Variable Selection for Mapping Multiple Quantitative Trait Loci on Obesity." The North American Association for the Study of Obesity: 2004 Annual Scientific Meeting, Las Vegas, Nevada
- Zakharkin SO, **Kim K**, Mehta T, Chen L, Barnes S, Scheirer KE, Allison DB, Page GP (2004) "Quantification of sources of variation in microarray experiments." The Second Annual Conference of the MidSouth Computational Biology and Bioinformatics Society (MCBIOS), Little Rock, AR
- Kyoungmi Kim**, Grier Page, T. Mark Beasley, Stephen Barnes, Katherine E. Scheirer, David B. Allison (2004) "Geography index: a method for evaluating an individual array's reliability." NSF microarray data analysis research coordination network annual retreat, New Paltz, New York
- Kyoungmi Kim**, Nengjun Yi, Eugene J. Eisen, Alfred Bartolucci, David B. Allison, and Daniel Pomp (2004) "Bayesian Epistatic Analysis of Quantitative Trait Loci for Body Weight and

Adiposity in Mice." The 3rd Annual conference of the Complex Trait Consortium, Bar Harbor, Maine

Kyoungmi Kim, Grier P. Page, T. Mark Beasley, Stephen Barnes, and David Allison (2004) "A proposed metric for assessing the measurement quality of individual microarrays." International Conference on Analysis of Genomic Data, Boston, MA

Kyoungmi Kim, Nengjun Yi, Alfred Bartolucci, David B. Allison (2004) "Bayesian Model and Variable Selection Approaches to Mapping Multiple QTL." International Biometric Society, Eastern North American Region meeting, Pittsburgh, PA

Jacob P. L. Brand, Grier P. Page, Gary Gadbury, Jode Edwards, **Kyoungmi Kim**, T. Mark Beasley, Stephen Barnes, David Allison (2004) "Alpha spending algorithm for more powerful multiplicity control in high dimensional biology: An application to inferential testing in Microarray data analysis." Plant and Animal genomic conference, San Diego, CA

Kyoungmi Kim (2003) "Linking genes: Gene Network." NSF microarray data analysis research coordination network annual retreat, New Paltz, New York

Kyoungmi Kim and Mai Zhou (2003) "Empirical likelihood ratio approach of two sample hybrid model in Survival Analysis." International Biometric Society, Eastern North American Region meeting, Tampa, FL

Kyoungmi Kim (2003) Invited Talk: "Empirical likelihood ratio method when additional information is known in Survival Analysis." University of Waterloo, Canada

Kyoungmi Kim and Mai Zhou (2003) "Empirical likelihood ratio of hybrid model." Joint Conference of the Korean Data and Information Science Society and the Korean Data Analysis Society, Busan, South Korea

Kyoungmi Kim and Mai Zhou (2002) "Empirical likelihood ratio with constraints of symmetry." Joint Conference of the Korean Data and Information Science Society and the Korean Data Analysis Society, Daegu, South Korea

Kyoungmi Kim (2002) R.L. Anderson award presentation: "Empirical likelihood ratio for a difference of two location parameters with constraints of symmetry." The 2002 Summer Research Conference in Statistics sponsored jointly by the Southern Regional Council on Statistics and the American Statistical Association, Natchez, Mississippi

Kyoungmi Kim (2002) Graduate student travel award presentation: "Envelope Empirical likelihood ratio with particular constraints." The Twenty-fifth Annual Midwest Biopharmaceutical Statistics Workshop, Muncie, Indiana

PUBLICATIONS

Submitted and Published

Kyoungmi Kim, Nengjun Yi, Engene J. Eisen, Alfred Bartolucci, David B. Allison, and Daniel Pomp (2004) "Bayesian Epistatic Analysis of Quantitative Trait Loci for Body Weight and Adiposity in Mice." Submitted to *Genetics*. Under revision

Stanislav O Zakharkin, **Kyoungmi Kim**, Grier P. Page and David B. Allison (2004) "Optimal Design for Microarray and Proteomic Measurement Evaluation studies." Submitted to *BioTechniques*. Under revision

Trivedi, P., Edwards, J. W., Wang, J., Page, G. P., Gadbury, G., **Kim, K.**, Mehta, T., Zakharkin, S.O., Brand, J. P. L., Allison, D. B. (2005) "HDBStat! : A comprehensive and platform-independent software suite for statistical analysis of high dimensional biology data." *BMC Bioinformatics*. Accepted

Kyoungmi Kim, Stanislav O Zakharkin, Ann E. Loraine, and David B. Allison (2004) "Picking the most likely candidates for further development: Novel intersection-union tests for addressing multi-component hypotheses in comparative genomics." 2004 Proceedings of the American Statistical Association Joint Statistical Meeting, ENAR Section [CD-ROM], Toronto, Ontario, Canada, Aug 8 - 12, 2004.

N. Yi, A. Diamant, S. Chiu, **K. Kim**, D.B. Allison, J.S. Fisher, and C.H. Warden (2004) "Characterization of Epistasis Influencing Complex Spontaneous Obesity in the BSB Model." *Genetics*, 167: 399-409

Marie-Pierre St-Onge, Grier P. Page, Maria DeLuca, Kui Zhang, **Kyoungmi Kim**, Steven B. Hyemsfield, and David B. Allison (2004) Book chapter: "Design and analysis of microarray studies for obesity research." *Nutrition in Health and Disease Series/1 Genomics and Proteomics in Nutrition*. NTS Inc.

Kyoungmi Kim and Mai Zhou (2004) "Symmetric Location Estimation/Testing by Empirical Likelihood." *Communications in Statistics Theory and Methods* Vol. 33, No. 9: 2233-2244

Kyoungmi Kim and Mai Zhou (2003) "Empirical likelihood ratio of two sample hybrid model with censoring." *2003 Proceedings of the Korean Data and Information Science Society*

Kyoungmi Kim and Mai Zhou (2002) "Empirical likelihood ratio with constraints of symmetry." *Proceedings of Joint Conference of the Korean Data and Information Science Society and the Korean Data Analysis Society*

In preparation

Kyoungmi Kim, Grier P. Page, Mark Beasley, Stephen Barnes, and David B. Allison (2005) "A proposed metric for assessing the measurement quality of individual microarrays." To be summated to *Nucleic Acids Research*

Kyoungmi Kim and David B. Allison (2005) Book chapter: "Composite hypothesis testing from multiple experiments: An approach built on intersection-union tests and Bayesian posterior probabilities." *Meta-analysis and Combining Information in Genetics*. Chapman-Hall

Kyoungmi Kim, David B. Allison, Engene J. Eisen, Daniel Pomp, and Nengjun Yi (2005) "Bayesian Variable Selection for Mapping Multiple Quantitative Trait Loci on Obesity." In preparation

Zakharkin SO, **Kim K**, Mehta T, Chen L, Barnes S, Scheirer KE, Parrish R. Allison DB, Page GP. (2005) "Sources of Variation and Reproducibility of Microarray Experiments." To be submitted to *BMC Bioinformatics*

Grier P. Page, Stanislav O Zakharkin, **Kyoungmi Kim**, et al. (2005) "Don't plant yourself head first: Getting the most of microarray experimentation in plants via sound experimental design." To be submitted to *Plant Genomics* as an invited review paper

PROFESSIONAL SERVICE

Chaired Contributed Session 6: Microarray Normalization and Expression Indices. International Biometric Society, Eastern North American Region meeting, March 28-31, 2004, Pittsburgh, PA

Refereed articles for the following journals: Computational Statistics & Data Analysis

PROFESSIONAL AFFILIATIONS

American Statistical Association
International Biometric Society, Eastern North American Region
Korean Statistical Society
Korean Data and Information Science Society
American Mathematical society

REFERENCES

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