

Curriculum Vitae

Yen-Yi Ho

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Education

- 2009 Ph.D., Biostatistics, Johns Hopkins University,
*Thesis Title: Gene Association Networks and Higher-Order Interactions:
Algorithms and Statistical Models.*
Committee: Dr. Giovanni Parmigiani (Advisor), Dr. Leslie Cope,
Dr. Pien-Chien Huang, Dr. Thomas Louis
- 2001 M.S., Epidemiology, National Taiwan University
- 1999 B.S., Double major in Medical Technology & Public Health,
National Taiwan University

Employment

- July 2011 – Faculty, Biostatistics and Bioinformatics Shared Resource
Masonic Cancer Center, University of Minnesota
- July 2011 – Assistant Professor, Division of Biostatistics, School of Public Health,
University of Minnesota
- 2009 – 2011 Postdoctoral Research Fellow
McKusick-Nathans Institute of Genetic Medicine
Johns Hopkins University School of Medicine
- 2006 – 2007 Statistical Consultant, Biostatistics Consulting Center
Department of Biostatistics, Johns Hopkins University
- 2005 – 2009 Statistical Consultant, School of Nursing
Johns Hopkins University
- 2001 – 2003 Research Associate, Bioresource Collection and Research Center
Hsinchu, Taiwan

Honors and Awards

- 2003 – 2005 Government Funded Scholarship for Studying Abroad,
Taiwanese Ministry of Education
- 1999 Research Creativity Award, National Science Council, Taiwan
Awarded for outstanding undergraduate research

Teaching Experience

- 2011 – Member, Statistical Genetics and Bioinformatics Curriculum Committee
Division of Biostatistics, University of Minnesota
- Fall 2012 – Present Co-Instructor, Statistics for Human Genetics and Molecular Biology (PUBH 7445)
Division of Biostatistics, University of Minnesota

Professional Memberships and Service

- American Statistical Association
Institute of Mathematical Statistics
Referee, American Journal of Epidemiology
Referee, Turkish Journal of Medical Sciences

Software

1. **Ho, Y.-Y.** (2009). LiquidAssociation: R/Bioconductor package for estimating liquid association using the conditional normal model. Available at <http://www.bioconductor.org>
2. Gunderson T.* (2014). fastLiquidAssociation: R/Bioconductor package for exploring liquid association on a genome-wide scale. Available at <http://www.bioconductor.org>. * Package was developed under Ho's supervision as the author's thesis advisor.

Publications

1. Chen, W.J., Liu P.-H., **Ho, Y.-Y.**, and Chien, K.-L., et al. (2003). Sibling recurrence risk ratio analysis of the metabolic syndrome and its components over time. *BMC Genetics* **4**, S33-S28.
2. Lee, W.-C., **Ho, Y.-Y.** (2003). Potential for gene-gene confounding bias in case-parental control studies. *Annals of Epidemiology* **13**, 261-266.
3. **Ho, Y.-Y.**, Parmigiani, G., Louis, T.A., Cope, L.M. (2010). Modeling Liquid Association. *Biometrics* **67**, 133-141. doi: 10.1111/j.1541-0420.2010.01440.x.
4. Jiang, Q., **Ho, Y.-Y.**, Hao L, Nichols Berrios C, Chakravarti, A. (2011). Copy number variants in candidate genes are genetic modifiers of Hirschsprung disease. *PLoS One* **6**, e21219.

5. **Ho, Y.-Y.**, Matteini A.M., Beamer B., and Fried L., et al. (2011). Exploring biologically relevant pathways in frailty. *Journal of Gerontology A Biological Sciences and Medical Sciences* **66**, 975-979.
6. Shen A., Baker J., Scott G., Davis Y., **Ho Y.-Y.**, Siliciano R. (2013). Endothelial Cell Stimulation Overcomes Restriction and Promotes Productive and Latent HIV-1 Infection of Resting CD4+ T Cells. *Journal of Virology* **87**, 9768-79. doi: 10.1128/JVI.01478-13.
7. Terrell A.N., Huynh M., Grill A., Kovi R.C., O'Sullivan M.G., Guttenplan J.B., **Ho, Y.-Y.**, Peterson L.A. (2014). Mutagenic activity of furan in female Big Blue B6C3F1 mice. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis* **770**, 46-54.
8. **Ho, Y.-Y.**, Cope, L.M., Parmigiani, G. (2014). Modular network construction using eQTL data: an analysis of computational costs and benefits. *Frontiers in Genetics* **5**, 40. doi: 10.3389/fgene.2014.00040
9. **Ho, Y.-Y.**, Baechler E.C., Ortmann W., Behrens T.W., Graham R.R., Bhangale T.R., Pan W. (2014). Using Gene Expression to Improve the Power of Genome-Wide Association Analysis. *Human Heredity* **78**, 94-103. doi: 10.1159/000362837
10. Abbott, K., Nyre, E., Abrahante, J., **Ho, Y.-Y.**, Isaksson, R.V., Starr, T. (2014) The Candidate Cancer Gene Database: a database of cancer driver genes from forward genetic screens in mice. *Nucleic Acids Research* **43**, D844-8. doi: 10.1093/nar/gku770.
11. Gunderson T.*, **Ho, Y.-Y.*** (2014) An efficient algorithm to explore liquid association on a genome-wide scale. *BMC Bioinformatics* **15**, 371. *Ho was the corresponding author and the first author's thesis advisor.
12. Gupta M., McCauley J., Farkas A., Gudeloglu A., Neuberger M.M., **Ho Y.-Y.**, Yeung L., Vieweg J, Dahm P. (2014) Clinical Practice Guidelines on Prostate Cancer: A Critical Appraisal. *The Journal of Urology* pii: S0022-5347(14)04811-3. doi: 10.1016/j.juro.2014.10.105.
13. Nho R., Im J., **Ho, Y.-Y.**, Hergert P. (2014) MicroRNA-96 inhibits FoxO3a function in IPF fibroblasts on type I collagen matrix. *American Journal of Physiology-Lung Cellular and Molecular Physiology* **307**, L632-42. doi: 10.1152/ajplung.00127.2014.
14. Gavin K., Linde J.A., Pacanowski C.R., French S.A., Jeffery R.W., **Ho Y.-Y.** (2015) Weighing frequency among working adults: cross-sectional analysis of two community samples. *Preventive Medicine Reports* **2**, 44-46. doi: 10.1016/j.pmedr.2014.12.005.
15. **Ho, Y.-Y.**, O'Connell M., Guan W., Basu S. (2015) Powerful Association Test Combining Rare Variant and Gene Expression Using Family Data from Genetic

Analysis Workshop 19. *Genetic Analysis Workshop 19 Proceedings* 2015;9 Suppl 8:S33.

Book Chapter

1. **Ho, Y.-Y.**, Cope, L., Dettling, M., and Parmigiani, G. (2007). Statistical methods for identifying differentially expressed gene combinations. *Methods in Molecular Biology* **408**, 171-191.

Submitted

1. **Ho, Y.-Y.**, LaRue R.S., Largaespada D.A. Individual-oriented gene set analysis using insertional mutation data. [Under review]
2. Fagan D.H., Fettig L.M., Avdulov S., Peterson M.S., **Ho, Y.-Y.**, Polunovsky V.A, and Yee D. Acquired tamoxifen resistance in MCF-7 breast cancer cells requires hyperactivation of eIF4F-mediated translation. [Under review]
3. **Ho, Y.-Y.***, Vo T.N.*, Chu H., LeSage M.G., Luo X., Le C.T. A Bayesian hierarchical model for estimating the demand curve. [Under review] *These authors contributed equally to this work
4. Abbott K, **Ho, Y.-Y.**, Erickson J.. Automatic health record review to identify gravely ill Social Security disability applicants. [Under review]
5. Arsoniadis E.G., **Ho, Y.-Y.**, Melton G.B, Madoff R.D., Le C., Kwaan M. African Americans and Short Term Outcomes After Surgery for Crohns Disease: An ACS-NSQIP Analysis. [Under review]

Presentations

Oral Presentation

1. Statistical Methods for identifying differentially expressed gene combinations (2007), International Biometric Society Eastern North American Region (ENAR).
2. Exploring Liquid Association in Non-Gaussian Multivariate Distributions (2008), Joint Statistical Meetings.
3. nPARS: A Comprehensive Search Algorithm for Constructing Bayesian Networks Using Large-Scale Genomic Data (2011), Joint Statistical Meetings, Miami.
4. Using Gene Expression to Improve the Power of Genome-Wide Association Analysis (2014). International Biometric Society Eastern North American Region (ENAR).
5. **Ho, Y.-Y.**, O'Connell M., Guan W., Basu S. (2015) Powerful Association Test Combining Rare Variant and Gene Expression Using Family Data from Genetic Analysis Workshop 19. *Genetic Analysis Workshop 19, Vienna, Austria* [Presented by O'Connell M]

Grants

1. Models for Tobacco Products Evaluation
Principal investigator: Dorothy Hatsukami, PhD
Mechanism: U19 (NIH/FDA)
2. Transdisciplinary Collaborative Center for Research African American Mens Health
Principal investigator: Selwyn Vickers, PhD
Mechanism: U54
3. Constituent Yields and Biomarkers of Exposure for Tobacco Product Regulation
Principal Investigator: Irina Stepanov, PhD
Mechanism: R01
4. Inducing NK cells to remember and fight cancer
Principal Investigator: Jeff Miller, MD
Mechanism: R01
5. Minnesota Obesity Center
Principal Investigator: Allen Levine, PhD
Mechanism: P30
6. Interactions between tobacco smoke constituents in rodent tumor models
Principal Investigator: Lisa Peterson, PhD
Mechanism: R01
7. Molecular mechanisms of leukemia stem cell persistence in AML relapse
Principal Investigator: Zohar Sachs, PhD
Mechanism: CTSI/KL2
8. Integrating Somatic Mutation and Gene Expression Data to Identify
Active Driver Pathways Associated with Cancer Survival
Principal Investigator **Yen-Yi Ho, PhD**
Mechanism: Grant-In-Aid, Office of the Vice President for Research, University of Minnesota