

LIANG LIU

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EDUCATION

- Ph.D., Biostatistics, The Ohio State University, Columbus, OH, 2006.
- M.S., Statistics, The Ohio State University, Columbus, OH, 2005.
- M.S., Neuroscience, The Capital University of Medicine, Beijing, China, 2000.
- B.S., Clinical Medicine, Tianjin Medical University, Tianjin, China, 1995.

EXPERIENCE

- Assistant Professor at Delaware State University (2010-present)
- Postdoctoral Fellow at Harvard University (2006 -2009)
- Research Assistant at the Ohio State University (2003-2006)
- Teaching Assistant at the Ohio State University (2001-2003)
- Pediatrician at Tianjin Children's Hospital (1995-1997).

PROGRAMS:

- BEST: Bayesian Estimation of Species Trees. www.stat.osu.edu/~dkp/BEST
- Phybase: an R package for simulating, manipulating, estimating phylogenetic trees. <http://code.google.com/p/phybase/>
- MP-EST: Maximum Pseudo-Likelihood estimation of species trees. <http://code.google.com/p/mp-est/>

PUBLICATIONS:

Zhang, L., **L. Liu**, L. Chen. A Multivariate Generalized Linear Regression Analysis for Golfer Perceived Value and Satisfaction. *International Journal of Sport Management*. (in press)

Liu, L., and L. Yu. Estimating species trees from unrooted gene trees. *Syst. Biol.* 2011, doi: 10.1093/sysbio/syr027

Liu, L., L. Yu, S.V. Edwards. A maximum pseudo-likelihood approach for estimating species trees under the coalescent model. *BMC Evol. Biol.* 2010, 10:302.

Shen, L, W. Zhang, F. Jin, L. Zhang, Z. Chen, **L. Liu**, D. Li. Expression of Recombinant AccMRJP1 protein from Royal Jelly of Chinese honeybee in *Pichia pastoris* and its Proliferation Activity in Insect Cell Line. *J. Agric. Food Chem.* 2010, 58:9190–9197.

Liu, L., and L. Yu. Phybase: an R package for species tree analysis. *Bioinformatics.* 2010 26(7):962-963.

Shen, L., M. Ding, L. Zhang, W. Zhang, **L. Liu**, D. Li. Expression of a Bee-Venom phospholipase A2 from *Apis cerana cerana* in the Baculovirus-insect cell. *J Zhejiang Univ Sci B*. 2010 May; 11(5): 342–349.

Castillo, S., **L. Liu**, D.K. Pearl, S.V. Edwards, Bayesian estimation of species trees: a practical guide to optimal sampling and analysis, in book "Estimating species trees" (edited by Laura Kubatko and Lacey Knowles), 2010.

Liu, L., L. Yu, D.K. Pearl, and S.V. Edwards. Estimating species phylogenies using coalescence times among sequences. *Systematic Biology* 2009, 58(5):468-477.

Liu, L., L. Yu, L. Kubatko, D.K. Pearl, and S.V. Edwards. Coalescent methods for estimating multilocus phylogenetic trees. *Molecular Phylogenetics and Evolution* 2009, 53(1): 320-328.

Liu, L., and S.V. Edwards. Phylogenetic Analysis in the Anomaly Zone. *Systematic Biology* 2009, 58(4):452-460.

Liu, L., L. Yu, and D.K. Pearl. Maximum tree: a consistent estimator of the species tree. *Journal of Mathematical Biology* 2009, 60(1):95-106.

Yu, L., R. Yu, **L. Liu**. Quasi-likelihood for Right-Censored Data in the Generalized Linear Model. *Communications in Statistics - Theory and Methods* 2009, 38:2187-2200.

Liu, L. BEST: Bayesian estimation of species trees under the coalescent model. *Bioinformatics* 2008, 24(21):2542:2543.

Brumfield, R.T., **L. Liu**, D. Lum, and S.V. Edwards. Comparison of species tree methods for reconstructing the phylogeny of bearded manakins (Aves: Pipridae: *Manacus*) from multilocus sequence data. *Systematic Biology* 2008, 57(5):719-731.

Liu, L., D.K. Pearl, R.T. Brumfield, and S.V. Edwards. Estimating species trees using multiple-allele DNA sequence data. *Evolution* 2008, 62(8):2080-2091.

Belfiore, N.M., **L. Liu**, and C. Moritz. Multilocus phylogenetics of a rapid radiation in the genus *Thomomys* (Rodentia: Geomyidae). *Systematic Biology* 2008, 57:294-310.

Liu, L. and D.K. Pearl. Species trees from gene trees: reconstructing Bayesian posterior distributions of a species phylogeny using estimated gene tree distributions. *Systematic Biology* 2007, 56:504-514.

Edwards, S.V., **L. Liu.**, and D.K. Pearl. High resolution species trees without concatenation. *Proceedings of the National Academy of Sciences (USA)*, 2007, 104:5936-5941.

Liu, L., and D.K. Pearl. 2006. Species trees from gene trees: Reconstructing Bayesian posterior distributions of a species phylogeny using estimated gene tree distributions. *Mathematical Biosciences Institute Technical Report #53*. The Ohio State University

Wolfe, A.D., C. P. Randle, **L. Liu** and K.E. Steiner. Phylogeny and biogeography of orobanchaceae. *Folia Geobotanica*, 2005, 40:115-125.

Liu, L. and G. Lu. Protective effect of protein-free supernatant of brain homogenate taken from hypoxia preconditioned mice on synaptosome membrane exposed to hypoxia. *Chinese Journal of Neuroscience*, 2001, 17:373-375

AWARDS

- Publisher's Award for Excellence in Systematic Research from Society of Systematic Biologists 2008.
- Travel award for Joint Statistical Meeting, 2005.

GRANTS

- Estimating Species Trees from Multilocus DNA Sequence Data. NSF DEB 0743616 (\$450,000). S. Edwards, PI, D. Pearl, Co-PI. L. Liu, Senior Personnel - Assisted with writing and preliminary data analysis
- A Bayesian model for estimating gene family evolution. A NSF seed grant (pending).
- Maximum pseudo-likelihood estimate of the species tree, Professional Development Fund (\$3000), Delaware State University, 2011.

PUBLIC PRESENTATIONS

- “Implementing BEAGLE library in MrBayes”, 2010, Mathematical Biotechnology Institute, the Ohio State University.
- “Estimating species trees from multilocus sequences (STAR and STEAC)”, 2009. Department of Organismic and Evolutionary Biology, Harvard.
- “Estimating species trees”, **invited talk**, Workshop. January 2009. Department of Ecology and Evolutionary Biology, University of Michigan.
- “Species trees and gene trees”, **invited talk**. Symposium. June 2008. Society of Systematic Biology.
- “Coalescence meets phylogenetics”, **invited talk**. July 2007. Museum of Vertebrate Zoology at UC Berkeley.
- “Species tree estimation”, invited talk. Symposium “Bayesian Invasion”. February 2006. Yale University.
- “Reconstructing posterior distributions of a species phylogeny using estimated gene tree distributions”, presentation. July 2006. Joint Meeting of the American Statistical Society.
- “Reconstructing posterior distributions of a species phylogeny using estimated gene tree distributions”, **poster**. June 2006. Society for the Study of Evolution.

PROFESSIONAL MEMBERSHIPS

- Society of Systematic Biology
- American Statistical Association

EDITORIAL WORK

- Referee: Systematic Biology, Bioinformatics, Journal of Mathematic Biology, Molecular Phylogenetics and Evolution, and International Journal of Knowledge Discovery in Bioinformatics, Molecular Ecology, Molecular Biology and Evolution, Heredity.
- Referee: National Science Foundation.