Sheng-Kai Hsu

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Positions & Education

Year	Position / Degree
2022–present	Postdoc, Institute for Genomic Diversity, Cornell University
2017–2021	Ph.D., Vienna Graduate School of Population Genetics, Univ. of Veterinary Medicine Vienna *Advisor: Christian Schlötterer*
2014–2015	M.Sc., Department of Agronomy, National Taiwan University *Advisor: Chih-Wei Tung*
2010–2014	B.Sc., Department of Agronomy, National Taiwan University

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Publications

1. **Hsu, S.**, Emmett, B.D., Haafke, A., Costa-Neto, G., Schulz, A.J., Lepak, N., La, T., AuBuchon-Elder, T.M., Hale, C.O., Raglin, S.S., Ojeda-Rivera, J.O., Kent, A.D., Kellogg, E.A., Romay, M.C., & Buckler, E.S. (2025). *Contrasting rhizosphere nitrogen dynamics in Andropogoneae grasses. The Plant Journal*, *123*(1). https://doi.org/10.1111/tpj.70319

2. Thorhölludottir, D.A.V., **Hsu, S.**, Barghi, N., Mallard, F., Nolte, V., & Schlötterer, C. (2025). *Reduced Parallel Gene Expression Evolution With Increasing Genetic Divergence—A Hallmark of Polygenic Adaptation. Molecular Ecology*, *34*(12). https://doi.org/10.1111/mec.17803

3. Unknown Author (2025). *Grass Rhizome Proteomics Reveals Convergent Freezing-Tolerance Strategies.* bioRxiv. https://doi.org/10.1101/2025.05.15.654294

4. Unknown Author (2025). *Extensive modulation of a conservedcis-regulatory code across 589 grass species.* bioRxiv. https://doi.org/10.1101/2025.04.23.650228

5. Lai, W., **Hsu, S.**, Futschik, A., & Schlötterer, C. (2025). *Pleiotropy increases parallel selection signatures during adaptation from standing genetic variation. eLife*, *13*. https://doi.org/10.7554/eLife.102321.3

6. Unknown Author (2025). *Extensive genome evolution distinguishes maize within a stable tribe of grasses.* bioRxiv. https://doi.org/10.1101/2025.01.22.633974

7. **Hsu, S.**, Lai, W., Novak, J., Lehner, F., Jakšić, A.M., Versace, E., & Schlötterer, C. (2024). *Reproductive isolation arises during labora-*

tory adaptation to a novel hot environment. Genome Biology, *25*(1). https://doi.org/10.1186/s13059-024-03285-9

8. Buchner, S., **Hsu, S.**, Nolte, V., Otte, K.A., & Schlötterer, C. (2023). *Effects of larval crowding on the transcriptome of Drosophila simulans. Evolutionary Applications*, *16*(10), 1671-1679. https://doi.org/10.1111/eva.13592

9. Unknown Author (2023). *Fishing for a reelGene: evaluating gene models with evolution and machine learning.* bioRxiv. https://doi.org/10.1101/2023.09.19.558246

10. **Hsu, S.**, Belmouaden, C., Nolte, V., & Schlötterer, C. (2020). *Parallel gene expression evolution in natural and laboratory evolved populations. Molecular Ecology*, *30*(4), 884-894. https://doi.org/10.1111/mec.15649

11. Jakšić, A.M., Karner, J., Nolte, V., **Hsu, S.**, Barghi, N., Mallard, F., Otte, K.A., Svečnjak, L., Senti, K., & Schlötterer, C. (2020). *Neuronal Function and Dopamine Signaling Evolve at High Temperature in Drosophila. Molecular Biology and Evolution*, *37*(9), 2630-2640. https://doi.org/10.1093/molbev/msaa116

12. **Hsu, S.**, Jakšić, A.M., Nolte, V., Lirakis, M., Kofler, R., Barghi, N., Versace, E., & Schlötterer, C. (2020). *Rapid sex-specific adaptation to high temperature in Drosophila. eLife*, *9*. https://doi.org/10.7554/eLife.53237

13. **Hsu, S.**, Jakšić, A.M., Nolte, V., Barghi, N., Mallard, F., Otte, K.A., & Schlötterer, C. (2019). *A 24 h Age Difference Causes Twice as Much Gene Expression Divergence as 100 Generations of Adaptation to a Novel Environment. Genes*, *10*(2), 89. https://doi.org/10.3390/genes10020089

14. Lin, P., Tsai, Y., **Hsu, S.**, Ou, J., Liao, C., & Tung, C. (2018). *Identification of natural variants affecting chlorophyll content dynamics during rice seedling development. Plant Breeding*, *137*(3), 355-363. https://doi.org/10.1111/pbr.12584

15. **Hsu, S.**, & Tung, C. (2017). *RNA-Seq Analysis of Diverse Rice Genotypes to Identify the Genes Controlling Coleoptile Growth during Submerged Germination. Frontiers in Plant Science*, *8*. https://doi.org/10.3389/fpls.2017.00762

16. **Hsu, S.**, & Tung, C. (2015). *Genetic Mapping of Anaerobic Germination-Associated QTLs Controlling Coleoptile Elongation in Rice. Rice*, *8*(1). https://doi.org/10.1186/s12284-015-0072-3

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