## BIOGRAPHICAL SKETCH

**Scott H. Brainard**
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### (a) Research & Professional Experience

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|---|---|
| 2025 – present | Research Associate, University of Wisconsin–Madison |
| 2018 – present | Tree Crop Breeder, Savanna Institute |
| 2023 – 2025 | USDA-AFRI Postdoctoral Fellow, University of Wisconsin–Madison |
| 2021 – 2023 | Postdoctoral Research Associate, University of Wisconsin–Madison |

### (b) Education & Training

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|---|---|---|---|
| University of Wisconsin | Madison, WI | Horticulture | Ph.D, 2021 |
| Wageningen University | Wageningen, NL | Plant Science | M.Sc. *cum laude*, 2016 |

### (c) Publications

***Most closely related***

1. **Scott H. Brainard**, Julie C. Dawson, Composite interval mapping and genomic prediction of nut quality traits in American hazelnuts and American-European interspecific hybrids, *Crop Science* **Under revision**. https://doi.org/10.1101/2025.10.20.683460.
2. **Scott H. Brainard**, Dean M. Sanders, Tomas Bruna, Shu Shengqiang, Julie C. Dawson, The first two chromosome-scale genome assemblies of American hazelnut enable comparative genomic analysis of the genus Corylus, *Plant Biotechnology Journal* **22**, 472-483 (2024). https://doi.org/10.1111/pbi.14199.
3. Andrey Vega-Alfaro, **Scott H. Brainard**, Irwin L. Goldman, QTL mapping utilizing $F_{2:3}$ linkage mapping populations reveals regions of chromosomes 2 and 6 are significantly associated with root width in carrot, *Acta Horticulturae* **1393**, 185-192 (2024). https://doi.org/10.17660/ActaHortic.2024.1393.24.
4. **Scott H. Brainard**, Jason A. Fischbach, Lois C. Braun, Julie C. Dawson, Improving selection efficiency in C. americana × C. avellana interspecific hybrids through the development of an indel-based genetic map, *Acta Horticulturae* **1379**, 135-140 (2023). https://doi.org/10.17660/ActaHortic.2023.1379.20.
5. Andrey Vega-Alfaro, **Scott H. Brainard**, Irwin L. Goldman, Linkage mapping of root shape traits associated with market class in two carrot populations, *G3* (2024). https://doi.org/10.1093/g3journal/jkae041.
6. Katharina Wigg, **Scott H. Brainard**, Nicholas Metz, Kevin Dorn, Irwin L. Goldman, Novel QTL associated with Rhizoctonia solani Kühn resistance identified in two table beet x sugar beet $F_{2:3}$ populations using a new table beet reference genome, *Crop Science* **63**, 535-555 (2023). https://doi.org/10.1002/csc2.20865.
7. **Scott H. Brainard**, Shelby L. Ellison, Philipp W. Simon, Julie C. Dawson, Irwin L. Goldman, Genetic characterization of carrot root shape and size using genome-wide association analy-

sis and genomic-estimated breeding values, *Theoretical and Applied Genetics* **135**, 605-622 (2022). https://doi.org/10.1007/s00122-021-03988-8.

8. **Scott H. Brainard**, Julian A. Bustamante, Julie C. Dawson, Edgar P. Spalding, Irwin L. Goldman, A digital image-based phenotyping platform for analyzing root shape attributes in carrot, *Frontiers in Plant Science* **12** (2021). https://doi.org/10.3389/fpls.2021.690031.

***Other significant publications***

7. Irwin L. Goldman, Andrey Vega-Alfaro, **Scott H. Brainard**, Cecilia McGregor, Madeline Oravec, Esther van der Knaap, Yanbing Wan, Form and contour: Breeding and genetics of organ shape from wild relatives to modern vegetable crops, *Frontiers in Plant Science* **14** (2023). https://doi.org/10.3389/fpls.2023.1257707.
8. **Scott H. Brainard**, Kevin J. Wolz, Keefe Keeley, Adrian Rodrigues, Francois-Jerome Selosse, Overcoming Bottlenecks in the Midwest Hazelnut Industry: An Impact Investment Plan, *Savanna Institute Report* (2019). https://www.savannainstitute.org/hazelnut-impact-investment-report/.
9. **Scott H. Brainard**, The impact of Indonesian agricultural policies on indigenous populations, natural resources and the economy, *U. Miami Inter-Am L. Rev* **43**, 165–193 (2011). http://www.jstor.org/stable/23339450.

## (d) Invited Talks (last five years)

1. *Genomic selection models for hazelnut nut morphology*. Forever Green Conference. Minneapolis, MN. March 28, 2025.
2. *Breeding hazelnuts and chestnuts for agroforestry systems in the Upper Midwest*. Oakspring Garden Foundation. Upperville, VA. March 21, 2025.
3. *A Plan for Breeding Better Hazelnuts for the Upper Midwest*. 2025 Upper Midwest Hazelnut Development Initiative Conference. Wisconsin Dells, WI. March 4, 2023.
4. *Enhancing selection efficiency for nut quality traits through genomic approaches*. 2025 Upper Midwest Hazelnut Development Initiative Conference. Decorah, IA. March 4, 2023.
5. *Optimizing nut trait selection efficiency via genomic prediction methods*. Forever Green Meeting. Minneapolis, MN. February 10, 2023.
6. *Increasing efficiency in nut trait selection using genomic information*. UW-Madison Emerging Crops Lunch and Learn Series. Madison, WI. January 19, 2023.
7. *Piloting the PacBio Revio sequencer to perform de novo genome assembly in the allohexaploid Diospyros virginiana*. PAG 30. San Diego, CA. January 14, 2023, 2022.
8. *Improving the efficiency of selecting for nut traits using genomic data*. 10th International Hazelnut Congress. Corvallis, OR. September 6, 2022.
9. *Development of improved inter-specific hazelnut varieties for the Upper Midwestern United States*. 6th European Agroforestry Conference. Nuoru, Sardinia. May 16, 2022.
10. *Improving the efficiency of selecting for nut traits using genomic data* (Daucus carota *subsp.* sativus). Upper Midwest Hazelnut Development Initiative - Annual Conference. La Crosse, WI. March 5, 2022.
11. *The genetic control of market class in carrot* (Daucus carota *subsp.* sativus). Plant Animal Genome Conference XXIX. Virtual conference. January 8, 2022.
12. *First chromosome-scale genome assemblies for Corylus americana*. Plant Animal Genome Conference XXIX. Virtual conference. January 8, 2022.

13. *Improving the efficiency of hazelnut breeding using genomic data*. North American Agroforestry Conference. Virtual conference. July 1, 2021.
14. *Improving the efficiency of hazelnut breeding using genetic information*. Upper Midwest Hazelnut Development Initiative - Annual Conference. Virtual conference. March 5, 2021.

**(e) Professional organizations**

1. National Association of Plant Breeders, 2021–present
2. International Society for Horticultural Science, 2022–present

**(f) Synergistic Activities**

1. Reviewer for *Frontiers in Ecology and Evolution*, *Plant Breeding Reviews*, *Plant Methods*, *Frontiers in Genetics*, *Acta Horticulturae*, *Plant Genetic Resources*
2. Lecturer in graduate-level courses for students in the Plant Breeding and Plant Genetics Program at the University of Wisconsin–Madison
3. Mentoring of graduate students in Horticulture (6) and Chemistry (1) PhD programs
4. Co-Chair of 'Scaling Agroforestry–Nurseries and Germplasm Develoment' Working Group