

# JOSEPH DETEMPLE

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Ames, IA, 50011

## EDUCATION

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**Iowa State University**

*August 2022 - now*

Ph.D., Interdepartmental Genetics and Genomics.

GPA: 3.84

**Brigham Young University**

*August 2018 - April 2022*

Bachelor of Science, Biology.

GPA: 3.85

## RESEARCH EXPERIENCE

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**Iowa State University**

*August 2022 - present*

Advisor: Jianming Yu

My research focuses on the incorporation of genetic information within ecophysiological crop models. This has particular application in understanding the dynamics of the flowering time gene network in maize, and how natural genetic variation can be used to understand and predict growth and development.

**Brigham Young University**

*March 2019 - April 2022*

Advisor: Clinton J. Whipple

Grew and maintained an interspecies F2 population between *G. capitata* and *G. yorkii*. Collected tissue samples, developmental timepoints, and floral trait measurements from F2 population. Performed QTL analysis of floral traits. Conducted PCA and LDA analyses from landmark data to quantify differences in overall floral shape between *G. capitata* and *G. yorkii*.

**Michigan State University**

*Summer 2021*

Advisor: Dan Chitwood

Worked on project to identify domatia growing on leaves of various *Vitis* species. Contributed to training dataset for a machine-learning algorithm to automatically identify domatia from leaf images.

## PUBLICATIONS

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**DE Jarvis, PJ Maughan, J DeTemple, V Mosquera, Z Li, MS Barker, LA Johnson, CJ Whipple**, Chromosome-Scale Genome Assembly of *Gilia yorkii* Enables Genetic Mapping of Floral Traits in an Interspecies Cross. *Genome Biology and Evolution*, Volume 14, Issue 3, March 2022, evac017, <https://doi.org/10.1093/gbe/evac017>

**Accepted and under revision:**

**J DeTemple, DH Chitwood, V Mosquera, CJ Whipple**, QTL analysis of floral morphology polymorphisms between *Gilia yorkii* and *G. capitata*. *bioRxiv* 2023.11.22.568340; <https://doi.org/10.1101/2023.11.22.568340>

## TECHNICAL SKILLS

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<b>Computational</b>	R, Python, SQL, HPC systems
<b>Laboratory</b>	DNA extraction, Bacterial transformation, Floral dissection

## AWARDS/GRANTS

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<b>AG2PI Student Conference Travel Award</b>	<b>Jan 2024</b>
\$1500 award towards travel in order to present research findings at Corn Breeding Research and Maize Meeting 2024.	
<b>Undergraduate Research Fellowship</b>	<b>May 2020</b>
\$1500 grant towards optimizing a novel EMS mutagenesis screen in <i>Gilia yorkii</i> .	
<b>College Undergraduate Research Award</b>	<b>Dec 2019</b>
\$1500 scholarship + \$1500 grant for running and interpreting a QTL analysis on an interspecies F2 population from <i>Gilia yorkii</i> and <i>G. capitata</i> .	

## PRESENTATIONS

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**CERIS-JGRA analysis of flowering time in CML277 and Tzi8.** Maize Meeting 2023. J DeTemple, L Tibbs-Cortes, Jialu Wei, Xianran Li, and J Yu. (Poster)

**QTL Analysis of Floral Traits in a Novel Interspecies Cross in Gilia.** Utah Conference of Undergraduate Research 2022. J DeTemple and CJ Whipple. (Poster)

**Floral Trait Differences between Gilia yorkii and G. capitata.** Botany 2020 Virtual Conference. J DeTemple, V Mosquera, CJ Whipple (Poster)

**Floral Traits Underlying Evolution in Gilia yorkii.** Life Sciences Undergraduate Poster Competition 2020. J DeTemple, V Mosquera, CJ Whipple. (Poster)

## LEADERSHIP AND SERVICE

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Field Day Co-Chair, R.F. Baker Plant Breeding Symposium (2023-present)

Fundraising Committee Chair, Interdisciplinary Biological Sciences Symposium (2023-present)

Fundraising Committee Member, Interdisciplinary Biological Sciences Symposium (2022-2023)

Poster Judge, 2023 State Science Technology Fair of Iowa (2023)

Financial and membership clerk for religious organization (2019-2021)

Elementary school tutor at Wasatch Elementary (2018-2019)

## REFERENCES

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Jianming Yu—jmyu@iastate.edu

Clinton Whipple—whipple@byu.edu

Adam Vanous—adam.vanous@usda.gov

Leigh Johnson—leigh\_johnson@byu.edu

Dan Chitwood—dhchitwood@gmail.com