Stanford

# Bella Archibald

Ph.D. Student in Bioengineering, admitted Autumn 2021

## Bio

### BIO

Bella works in Professor Jennifer Brophy's lab, and her research focuses on developing new tools to precisely engineer plants and plant root development. She hopes to create plants that are more drought tolerant and climate resilient, as well as plants with optimized root structures for enhanced bioremediation and resource recovery.

Outside of the lab, Bella loves skiing, hiking, and dancing, and her favorite flower is the Arrowleaf Balsamroot.

### HONORS AND AWARDS

- Inflection Awardee, Inflection (2025)
- Stanford Bio-X Bowes Fellow, Stanford Bio-X (2024)
- NSF Graduate Research Fellow, NSF (2021)
- Undergraduate Research Scholar, University of Utah (2021)
- Barry Goldwater Scholar, Barry Goldwater Scholarship and Excellence in Education Foundation (2020)
- UROP (Undergraduate Research Opportunity Program) Scholar, University of Utah (2019)
- Academic Excellence Scholar, University of Utah (2017-2021)

### LINKS

- Brophy Lab: https://www.brophylab.org/home
- Stanford Synthetic Biology Community: https://sb.stanford.edu/
- Inflection: https://inflectionaward.com/

## Publications

### PUBLICATIONS

- **The H3.3K36M oncohistone disrupts the establishment of epigenetic memory through loss of DNA methylation.** *Molecular cell*
  Sinha, J., Nickels, J. F., Thurm, A. R., Ludwig, C. H., Archibald, B. N., Hinks, M. M., Wan, J., Fang, D., Bintu, L.
  2024
- **Policy makers, genetic engineers, and an engaged public can work together to create climate-resilient plants.** *PLoS biology*
  Archibald, B. N., Zhong, V., Brophy, J. A.
  2023; 21 (7): e3002208
- **Transcriptional and post-transcriptional controls for tuning gene expression in plants.** *Current opinion in plant biology*
  Zhong, V., Archibald, B. N., Brophy, J. A.
  2022; 71: 102315

- **Comparison of Gene Editing versus a Neutrophil Elastase Inhibitor as Potential Therapies for ELANE Neutropenia.** *Journal of cellular immunology*
  Makaryan, V., Kelley, M., Fletcher, B., Archibald, I., Poulsen, T., Dale, D.
  2022; 4 (1): 19-28

- **CRISPR/Cas9 Mediated ELANE Knock-out Restores Survival and Granulocytic Differentiation of HL60 Cells Expressing Mutant Neutrophil Elastase: Is Neutrophil Elastase a Dispensible Granulocyte Protease?**
  Makaryan, V., Archibald, I. N., Kelley, M. L., Fletcher, B., Dale, D. C.
  AMER SOC HEMATOLOGY.2019