

Cynthia Canan

Assistant Professor and State 4-H STEM Specialist

OSU College of Food, Agricultural and Environmental Sciences

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As a State 4-H Specialist in Science, Technology, Engineering and Math (STEM) education, I provide overall leadership for developing and implementing a comprehensive Extension teaching and applied research agenda via 4-H positive youth development within the Department of Extension in the College of Food, Agricultural, and Environmental Sciences at The Ohio State University. I work collaboratively with a team of OSU professionals within OSU Extension as well as with cross-disciplinary departments and colleges. I function as a consultant with 4-H youth development professionals to address statewide issues in 4-H STEM as expertise is needed. I provide unbiased research-based and evidence-informed experiential learning strategies and secure resources (grants, contracts, user fees) to focus on these issues. I collaborate with regional and federal 4-H STEM programming entities to address state to regional needs. I also plan, teach, and evaluate STEM educational programs including development of relevant curricula; conduct applied research; make creative and scholarly contributions, and contribute service to the profession and university. My current efforts are focused on STEM Experiential Learning and Engagement as well as Expanding Equitable STEM Access.

Work History

- 2023 – present, Assistant Professor and State 4-H STEM Specialist, OSU College of Food Agricultural and Environmental Sciences
- 2020 - 2023, Lecturer, OSU College of Pharmacy

Education

- 2016 – PhD, Ohio State University, Biomedical Research
- 2009 – B.S., Ohio State University, Biology

Area of Interest

- Non-Formal STEM Teaching Development
- Youth STEM Learning in Non-Formal Environments
- Active STEM Learning Principles

Selected Professional Awards

- 2025, Communicator Award – State Winner for Teaching and Educational Package, National Association of Extension 4-H Youth Development Professionals
- 2024, Scarlet Hashtag Award Organic Campaign Division, The Ohio State University Marketing and Communication
- 2024, Program of Excellence in Engaged Scholarship: WestFest: West Campus Science and Sustainability Festival, Office of Outreach and Engagement, Ohio State University.

Selected Creative Works

- **Canan CH**, Moreno-Roman P and Stuart H. (2025). *Microscope Mysteries* [4-H Project Book]. Columbus, United States: College of Pharmacy. Sponsors: OSU Extension Publishing. Types of review: peer reviewed. Available from <https://extensionpubs.osu.edu/microscope-mysteries/>
- **Canan CH** and Benoit J. (2025) *Defining Artificial Intelligence*. [Digital and Electronic Media]. Available from <https://youtu.be/59rwnC55Pdg>
- **Canan, CH** and Newsome S (2024). *Small Moon, Big Sun 3*. [Lesson Plan]. Types of review: Peer reviewed. Available from <https://ohio4h.org/small-moon-big-sun-advanced>
- Canan CH and Schlingman W (2024). *Safety Tips for Viewing the Total Eclipse* [Digital and Electronic Media]. Available from <https://www.youtube.com/watch?v=WNR7eJnxW5E&t=3s>

- Price C, **Canan CH**, Cerveneck J, and Schlingman W. (2021 - present). Ohio State University STEM Impact Collaborative [Website]. Retrieved from <https://u.osu.edu/stemimpact/>

Selected Journal Articles and Publications

- Jeong S, Jeong SY, Reeves E, & **Canan C** (2025). Fostering Equity and Advocacy in a High School Biology Classroom: A Case Study Approach to Genetics and Social Justice. *The Science Teacher*, 92(2), 18–23. <https://doi.org/10.1080/00368555.2025.2450671>
- **Canan CH**, Jewell T, Kang D, and Downing MN (2024). Student Achievement of Course Learning Goals in an Asynchronous Distance Learning Course Redesigned using Fink's Taxonomy of Significant Learning. *Online Learning*, 28(4), 360-383. Retrieved from: <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/3934>
- Summers K, Downing M, **Canan CH** and Kwiek NC. (2024). Impact of Precollege Pharmacy Exploration Program on Undergraduate and PharmD Program Recruitment. *American Journal of Pharmaceutical Education* (88) 100828. DOI:10.1016/j.ajpe.2024.100828
- **Canan CH** (2023). Partnering with University Outreach Experts. In Jeong, S.; Bryan, L.; Tippins, D.; Sexton, C. (Eds.), *Navigating Elementary Science Teaching and Learning: Using case-based pedagogy to understand dilemmas of practice*. Springer Nature, Switzerland.

Selected Service Activities

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| 2023 - present | • Assistant Superintendent. Ohio State Fair STEM Day. Retrieved from https://ohio4h.org/sites/ohio4h/files/imce/Families/state_fair/STEM%20DAY%20revised_3.pdf |
| 2020 - present | • Planning Committee Member. WestFest: West Campus Science and Sustainability Festival. Retrieved from https://u.osu.edu/stemimpact/westfest/ |
| 2020 - present | • Founding and Member. STEM Impact Collaborative (SIC). Retrieved from https://u.osu.edu/stemimpact/about-us/ |

Selected Presentations

- **Canan CH** and Price C (2025). Persistence and Partnership: Showing Up and Staying the Course. Engagement Scholarship Consortium Conference: Building Resources to Build Stronger communities. Roanoke, Virginia. Types of Review: Peer Reviewed.
- **Canan CH**. (2024) Launch into Partnership with NASA and 4-H. In-person presentation, John Glenn NASA Research Center. Cleveland, OH. Types of review: Invited.
- Jeong, S., Steele, D., & **Canan, C**. (2023). Anchoring Phenomenon-Based STEM Teaching and Learning: Exploring Its Complexities, Promises, and Examples. Association for Science Teacher Education, Salt Lake City, UT. Types of review: Peer Review. Retrieved from https://theaste.org/wp-content/uploads/2022/01/2023-ASTE-Conference-Program_12-23-22_2.pdf
- Downing M. and **Canan CH**. (2023). Is the Learning Experience Significant? Using Fink's Taxonomy to (re)design and evaluate asynchronous distance learning courses. Webinar Presentation, Online Learning Consortium. Types of review: Invited. Retrieved from: <https://onlinelearningconsortium.org/webinar/is-the-learning-experience-significant-using-finks-taxonomy-to-redesign-and-evaluate-asynchronous-distance-learning-courses/>