

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

- STEM Experiential Learning and Engagement
- Expanding Equitable STEM Access
- OSU WestFest, West Campus Science and Sustainability Festival

Selected Professional Awards

- 2022, Best-in-Track in Research, Evaluation and Learning Analytics. Online Learning Consortium Accelerate Conference 2022. Orlando, Florida.
- 2022, High Impact Program: WestFest: West Campus Science and Sustainability Festival, Office of Outreach and Engagement, Ohio State University.

Selected Creative Works

- **Canan CH**, Cervenec J, Schlingman W and Price C. (2022). West Campus Science and Sustainability Festival Virtual Event Packet [STEM Activity Booklet]. Sponsors: OSU Office of Outreach and Engagement and Ohio State Energy Partners. Retrieved from <https://u.osu.edu/stemimpact/files/2022/10/WF-Virtual-Booklet-Almost-Final.pdf>
- Price C, **Canan CH**, Cervenec J, Delgado-Carrillo M, and Schlingman W. (2022). West Campus Science and Sustainability Festival Activity kit [STEM Activity kit]. Sponsors: OSU Office of Outreach and Engagement and Ohio State Energy Partners. Retrieved from <https://u.osu.edu/stemimpact/westfest/westfest-2022-virtual/>
- Price C, **Canan CH**, Cervenec J, and Schlingman W. (2021 - present). Ohio State University STEM Impact Collaborative [Website]. Retrieved from <https://u.osu.edu/stemimpact/>

- **Canan CH**, Cervenec J. (2021). Ohio State University College of Pharmacy 360 Degree Virtual Tour [multimedia]. Columbus, Ohio State University Byrd Polar Climate Research Center. Retrieved from <https://virtualice.byrd.osu.edu/osu-pharmacy/>
- **Canan, CH**; Downing, M; Summers, K (2020). Medicine Science and Safety [4-H Project Book]. Columbus, Ohio State University College of Pharmacy. Sponsors: OSU Extension Publishing. Available from <https://extensionpubs.osu.edu/medicine-science-and-safety/>
- Downing, M; **Canan, CH** (2017). Girl Scouts of Ohio's Heartland Generation Rx Patch (Girls Scouts Patch Curriculum]. Columbus, Ohio. Retrieved from <https://www.gsoh.org/en/members/for-girl-scouts/badges-and-journeys/council-s-own-patch-programs.html>

Selected Journal Articles and Publications

- **Canan, C.H.** (In press). 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.
- Moliva JJ, Hossfeld AP, Sidiki S, **Canan CH**, Dwivedi V, Beamer G, Turner J, Torrelles JB. Selective delipidation of *Mycobacterium bovis* BCG enables direct pulmonary vaccination and enhances protection against *Mycobacterium tuberculosis*. *Mucosal Immunology*. 2019;12(3):805-815. Epub 2019/02/18. doi: 10.1038/s41385-019-014-2. PubMed PMID: 30778118.
- Moliva JJ, Hossfeld AP, **Canan CH**, Dwivedi V, Wewers MD, Beamer G, Turner J, Torrelles JB. Exposure to human alveolar lining fluid enhances *Mycobacterium bovis* BCG vaccine efficacy against *Mycobacterium tuberculosis* infection in a CD8⁺ T-cell-dependent manner. *Mucosal Immunology*. 2018;11(3):968-978. Epub 2017/09/20. doi: 10.1038/mi.2017.80. PubMed PMID: 28930287.
- **Canan CH**, Gokhale NS, Carruthers B, Lafuse WP, Schlesinger LS, Torrelles JB, Turner J. Characterization of lung inflammation and its impact on macrophage function in aging. *Journal of leukocyte biology*. 2014;96(3):473-80. Epub 2014/06/18. doi: 10.1189/jlb.4A0214-093RR. PubMed PMID: 24935957.

Selected Service Activities

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| 2023 - present | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Planning Committee Member. WestFest: West Campus Science and Sustainability Festival. Retrieved from https://u.osu.edu/stemimpact/westfest/ |
| 2020 - present | <ul style="list-style-type: none"> • Founding and Member. STEM Impact Collaborative (SIC). Retrieved from https://u.osu.edu/stemimpact/about-us/ |

Selected Presentations

- 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/>
- 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
- Price C, **Canan CH**, Cervenec J, Delgado-Carrillo M, and Schlingman W. (2022). Building Impactful Internal Collaborations (a.k.a Find Your People). Virtual Presentation, Advancing Research in Society Summit 2022. Types of review: Peer Review. Retrieved from: <https://www.youtube.com/watch?v=UQrbAANPkio>
- **Canan CH**, Gokhale, NS, Carruthers B, Lafuse WP, Schlesinger LS, Torrelles JB, Turner J. 2015. Lung Inflammation in Old Age Alters Immune Function to *Mycobacterium tuberculosis*. **Poster presentation** at the Keystone Symposia on Molecular and Cellular Biology titled "Host Response in Tuberculosis", held in Santa Fe, NM.