

# Education research & Teaching Publications

**Sarvary, M.A.** (ed.). Investigative Biology: a laboratory text, Hayden-McNeil Publishing, Plymouth, MI. 2012- every semester

Ruesch, J., **M.A.Sarvary** (2024). Structure and Flexibility: Systemic and explicit assignment extensions foster an inclusive learning environment. *Frontiers in Education*. DOI: <https://doi.org/10.3389/feduc.2024.1324506>

Gifford, KM, **M.A. Sarvary** (2023). Chapter 41: Using the Message Triangle to Distil Complex Research into a Story. In: *Teaching Science Students to Communicate: A Practical Guide* (Eds: Rowland, S & Kuchel, L.), Springer Nature Publishing, 978-3-030-91627-5

Kelp, N.C., M. McCartney, **M.A. Sarvary**, J.F. Schaffer and M.J. Wolyniak (2023). Developing Science Literacy in Students and Society: Theory, Research, and Practice. *Journal of Microbiology and Biology Education*. DOI: <https://doi.org/10.1128/jmbe.00058-23>

**Sarvary, M.A.**, J. Ruesch (2023) A multi-step science literacy training framework in an introductory biology classroom: teaching how to find, evaluate, comprehend, and cite scientific evidence. *Journal of Microbiology and Biology Education*. DOI: <https://doi.org/10.1128/jmbe.00197-22>

**Sarvary, M.A.**, F.R. Castelli, M. Asgari (2022). Undergraduates' experiences with online and in-person courses provide opportunities for improving student-centered biology laboratory instruction. *Journal of Microbiology and Biology Education*. Special Issue: Opportunities and Challenges of Online Instruction - Blurring the Lines Between Online and On-site Teaching and Learning. DOI:<https://doi.org/10.1128/jmbe.00289-21>

Asgari, M., Miles, A., Lisboa, S. and **M.A. Sarvary** (2021). "COPUS, PORTAAL, or DART? Classroom observation tool comparison from the instructor user's perspective". *Frontiers in Education*. DOI: <https://doi.org/10.3389/feduc.2021.740344>

Castelli, F.R., and **M.A. Sarvary** (2021). Why students do not turn their video cameras during online classes and an equitable and inclusive plan to encourage them to do so. *Ecology and Evolution*. DOI: <https://doi.org/10.1002/ece3.7123>

Clara M., M.K. Smith, T. Boester, A. Bracy, B.A Couch, A.G Drake, S. Farooq, B. Khoda, C. Kinsland, A.K. Lane, S.E. Lindahl, W.H. Livingston, A. Maliwal, A. McCormick, A.I. Morozov, J.L. Newell-Caito, K.J. Ruskin, **M. A. Sarvary**, M. Stains, J.R. St Juliana, S.R. Thomas, C. Van Es, E. Vinson, M.N. Vitousek and M.R. Stetzer (2021). What questions are on the minds of STEM undergraduate students and how can they be addressed? *Frontiers in Education*, DOI: <https://doi.org/10.3389/feduc.2021.639338>

Castelli, F.R., Asgari M. and **M. A. Sarvary** (2020). Benefits of the Undergraduate Teaching Assistant Experience in an Introductory Biology Laboratory Course and Other STEM Courses. *Advances in Biology Laboratory Teaching*, Publication of the Association for Biology Laboratory Education (ABLE), vol. 41., Article 61. ([www.ableweb.org](http://www.ableweb.org))

## Education research & Teaching Publications (cont.)

Megan Biango-Daniels & **M. A. Sarvary** (2020). A challenge in teaching scientific communication: academic experience does not improve undergraduates' ability to assess their or their peers' writing. *Assessment & Evaluation in Higher Education*, DOI: <https://doi.org/10.1080/02602938.2020.1812512>

Asgari, M., & **M.A. Sarvary** (2020). The Value of Undergraduate Teaching Assistants in Synchronous Online Learning Environments: 10 Steps That Can Make a Positive Change. *The Teaching Professor*, September 14, 2020. <https://www.teachingprofessor.com>

Olabisi, L.S., Schwarz, K., Lambert, K.F., Garlick, S., Zinnen, T., **M.A. Sarvary**, J. Shakalli, J. (2020). University Practices for Making Community-University Partnerships Work for All. *Public Engagement Reflections of the American Association for the Advancement of Science*. October 27, 2020. <https://www.aaas.org/programs/center-public-engagement-science-and-technology/reflections/university-practices-making>

**Sarvary, M.A.** and K.M. Gifford (2017). The benefits of a real-time web-based response system for enhancing engaged learning in classrooms and public science events. *Journal of Undergraduate Neuroscience Education*, 2017 vol. 15., issue 2. <https://www.funjournal.org/901-2/>

Deane-Coe, K.K., **M. A. Sarvary** and T.G. Owens (2017). Student performance along axes of concept novelty and complexity in introductory biology: lessons from a unique factorial approach to assessment. *CBE Life Sci Educ.*, Vol. 16. No. 1. DOI: <https://doi.org/10.1187/cbe.16-06-0195>

Drott, M. and **M.A. Sarvary** (2016). Why did the snake cross the road? A Population Genetics and Habitat Conversation Case Study. National Center for Case Study Teaching in Science. <https://www.nsta.org/ncss-case-study/why-did-snake-cross-road>

**Sarvary, M.A.** and K. M. Gifford (2016). Engaging Students in Large Classrooms: Turning Classical Lectures Into Dialogues Using Digital Pedagogy. Examples, Benefits and Pitfalls. *Proceedings of the 8th annual International Conference on Education and New Learning Technologies (EduLearn16)*, pp. 7089-7097, doi:10.21125/edulearn.2016.0547. <https://library.iated.org/view/SARVARY2016ENG>

**Sarvary, M.A.** (2015). How to make scientific paper reading fun: Journal club style role-playing to improve scientific literacy and reading comprehension skills in biology laboratories. *Tested Studies for Laboratory Teaching, Peer-Reviewed Proceedings of the 35th Conference of the Association for Biology Laboratory Education (ABLE)*, vol. 36.

**Sarvary, M.A.** (2014). Biostatistics in the Classroom: Teaching Introductory Biology Student How to Use the Statistical Software 'R' Effectively. *Tested Studies for Laboratory Teaching, Peer-Reviewed Proceedings of the 35th Conference of the Association for Biology Laboratory Education (ABLE)*, vol. 35., pp. 129-131. ([www.ableweb.org](http://www.ableweb.org))

Hester, L. L., **M. A. Sarvary**, and C. J. Ptak (2014). Mutation and Selection: An Exploration of Antibiotic Resistance in *Serratia marcescens*. *Tested Studies for Laboratory Teaching, Peer-Reviewed Proceedings of the 35th Conference of the Association for Biology Laboratory Education (ABLE)*, vol. 35. pp. 98-132. ([www.ableweb.org](http://www.ableweb.org))

**Sarvary, M.A.** (2013). Test Bank revision, In: *Biology of Humans: Concepts, Applications, and Issues*, 5th edition by Judith Goodenough and Betty A. McGuire, Benjamin Cummings Publishing.

**Sarvary, M.A.** (2013). Study Guide revision, In: *LIFE: The Science of Biology*, 10th edition by Sadava et. al, W.H. Freeman Publishing.

**Sarvary, M.A.** (2011). Test Bank revision, In: *Biology of Humans: Concepts, Applications, and Issues*, 4th edition by Judith Goodenough and Betty A. McGuire, Benjamin Cummings Publishing.

# Ecology Research Publications

**Sarvary, M.A.**, K. Boroczky, M.F. Cooperband, R.A. Raguso, A.E. Hajek (2016). Investigating the effects of symbiotic fungi on the flight behaviour of *Sirex noctilio* (Hymenoptera: Siricidae). *The Canadian Entomologist*, 148(5), pp. 543–551.

**Sarvary, M.A.**, M.F. Cooperband, A.E. Hajek (2015). The importance of olfactory and visual cues in developing better monitoring tools for *Sirex noctilio* (Hymenoptera: Siricidae). *Agricultural and Forest Entomology*, 17, 29-35.

**Sarvary, M. A.**, H. Reissig, J. Nyrop (2010). Effects of natural enemies and host plants in wild and orchard habitats on the larval survival of *Choristoneura rosaceana* (Lepidoptera: Tortricidae). *Biological control* 55. 110–117

**Sarvary, M.A.**, S. Hight, J. Carpenter, K. Bloem, S. Bloem, S. Dorn (2008). Identification of factors influencing flight performance of field-collected and laboratory-reared, overwintered and non-overwintered cactus moths fed with field-collected host plants. *Environmental Entomology*, 37: 1291-1299.

**Sarvary, M.A.**, K. Bloem, S. Bloem, J. Carpenter, S. Hight, S. Dorn (2008). Diel flight pattern and flight performance of *Cactoblastis cactorum* (Berg) (Lepidoptera: Pyralidae) measured on a flight mill: the influence of age, gender, mating status and body size. *Journal of Economic Entomology*, 101: 314-324.

**Sarvary, M.A.**, H. Reissig, J. Nyrop (2007). Assessment of three techniques for measuring natural enemy inflicted mortality of leafroller larvae in commercial orchards. *Biological Control*, 41. 312-320

**Sarvary, M.A.**, H. Reissig, J. Nyrop (2007). Assessment of three techniques for measuring natural enemy inflicted mortality of leafroller larvae in commercial orchards. *Biological Control*, 41. 312-320

**Sarvary, M.A.**, H. Reissig, J. Nyrop, K. M. Gifford (2007). Potential for conservation biological control of the obliquebanded leafroller (OBLR) *Choristoneura rosaceana* (Harris) in orchard systems managed with reduced-risk insecticides. *Biological Control*, 40. 37-47

**Sarvary, M. A.**, H. Reissig, J. Nyrop (2004). Mortality of obliquebanded leafroller larvae due to natural enemies in orchards treated with conventional or reduced-risk insecticides. *New York Fruit Quarterly*, 12(4):23-26

**Sarvary M. A.**, G. Bakonyi, V. Claassen (2000). Food preference of *Hemileius initialis* (Acari: Oribatidae) in the presence of endomycorrhizal fungi. *Allattani Kozlemanyek (Zoology Journal of the Hungarian Biological Society)*, 85: 53-58

# Invited talks & Workshops

- 2024** **Workshop:** Teaching Science Communication. German branch of the Fulbright-Cottrell community, Saarbrücken, Germany
- Workshop:** SciComm in the classroom. Cottrell Scholars Collaborative. American Chemical Society, Washington, D.C.
- Workshop:** How to integrate science communication into your biology course using active learning. Society for the Advancement of Biology Education Research (SABER) Annual Meeting, University of Minnesota.
- Talk:** Bridging the Gap: Enhancing Research Lab Access Through Early Academic Pathway Intervention. Society for the Advancement of Biology Education Research (SABER) Annual Meeting, University of Minnesota.
- Poster:** A Multistep Science Literacy Training Framework in an Introductory Biology Classroom: Teaching How to Find, Evaluate, Comprehend, and Cite Scientific Evidence. Society for the Advancement of Biology Education Research (SABER) East Coast Meeting, RIT, Rochester, NY.
- 2023** **Talk:** Structure and flexibility: Assessing a student-centered extension deadline system in a large introductory biology course. Society for the Advancement of Biology Education Research (SABER) Annual Meeting, University of Minnesota.
- Workshop:** Evidence-based pedagogies in the science communication classroom. Public Communication of Science and Technology Conference. Rotterdam, The Netherlands.
- Panel discussion:** Systemic assignment extensions promote an inclusive classroom. CALS Lunch & Learn. Cornell University.
- Talk:** Disinterring Critical Thinking from the Introductory STEM Curriculum. American Association of Colleges and Universities. Conference on General Education, Pedagogy, and Assessment. New Orleans.
- 2022** **Talk:** What to keep from online learning: a student-centered approach to developing the “new normal.” Society for the Advancement of Biology Education Research (SABER) Annual Meeting, University of Minnesota.
- Workshop:** Fostering Critical Thinking. CALS Teaching Experience Workshop.
- Workshop:** Social media for Storytelling. Cornell’s Center for Teaching Innovation Digital Storytelling Series.
- Workshop:** Science Communication Workshop, Dean’s Leaders program, College of Veterinary Medicine, Cornell University.
- 2021** **Talk:** A Foundation, not an afterthought: diversifying training models to transform science communication education worldwide. An international roundtable discussion at the Public Communication of Science and Technology Conference (virtual).
- Workshop:** Active learning in the science communication classroom. Public Communication of Science and Technology Conference (virtual).
- Talk:** A challenge in teaching scientific communication: Academic experience does not improve undergraduates’ ability to accurately assess their own or their peers’ work. Society for the Advancement of Biology Education research (SABER) Annual meeting (virtual).
- Poster:** A challenge in teaching scientific communication: Academic experience does not improve undergraduates’ ability to accurately assess their own or their peers’ work. X-DBER conference at the University of Nebraska-Lincoln (virtual).
- 2020** **Talk:** Embracing students’ creativity when teaching them how to communicate scientific information to the publics. CALS Learning Community lunch. Cornell University.
- Talk:** What criteria do students use to form research groups and how do these criteria relate to students’ learning and attitude towards group work? Association of Colleges and Universities Biology Educators Annual Conference.
- Talk:** Why students do not turn on their video cameras during online classes and an equitable and inclusive plan to encourage them to do so. Association of Colleges and Universities Biology Educators Annual Conference
- 2019** **Workshop:** Critical Thinking and Metacognition. CALS Teaching Experience Workshop.
- Workshop:** SciComm in the classroom. Cottrell Scholars Collaborative. American Chemical Society, Washington, D.C.
- Workshop:** Is your brand bland? Improve your digital footprint and learn how to use social media for science communication! Office of Undergraduate Biology research seminar. Cornell University

## Invited talks & Workshops (cont.)

- 2018** **Talk:** Informal education via science cafes: promoting open science and enhancing scientific literacy. Open science: from values to practice. Building a roadmap for transformative change, Barcelona, Spain
- Talk:** Turning undergraduates into science storytellers. What are the best practices? Public Communication of Science and Technology Conference, Dunedin, New Zealand.
- Talk:** #CuSciStory: turning undergraduates into science storytellers via public engagement and digital platforms. American Association for the Advancement of Science, Annual meeting. Austin, TX.
- Roundtable discussion:** Science Communication Workshop for Graduate Students. COMM 5660.
- Workshop:** Maternal and Child Nutrition Research Forum, Science Communication workshop. "Is your brand bland? Flavor your nutrition sciences research with public engagement."
- 2017** **Talk:** Going beyond clickers: using a versatile web-based response system for engaging audiences in college classrooms and in public science events. The 9th annual International Conference on Education and New Learning Technologies (EduLearn17). Barcelona, Spain.
- Workshop:** Science Communication for the Graduate student/postdoc club "Advancing Science and Policy".
- Poster:** From consumers to critical contributors: training the next generation of skeptical scientists through editing Wikipedia. American Association for the Advancement of Science, Annual meeting. Boston, MA
- 2016** **Talk:** Engaging Students in Large Classrooms: Turning Classical Lectures Into Dialogues Using Digital Pedagogy. Examples, Benefits and Pitfalls. The 8th annual International Conference on Education and New Learning Technologies (EduLearn16). Barcelona, Spain.
- Talk:** Going beyond clickers: using a versatile web-based response system for engaging students. Annual meeting of the National Center for Case Study Teaching in Science, Buffalo, NY.
- Faculty panel:** Cornell Undergraduate Research Board, Peer Mentorship Program.
- 2015** **Talk:** Benefits and expectations of undergraduate research. Cornell Undergraduate Research Board, Peer Mentorship Program.
- Workshop:** Science Café: make dissemination of science fun! Association for Biology Laboratory Education Annual Meeting. Eugene, OR.
- 2014** **Workshop:** How to make scientific paper reading fun: Journal club style role-playing to improve scientific literacy and reading comprehension skills in biology laboratories. Association for Biology Laboratory education annual meeting. Eugene, OR.
- Workshop:** How to prepare posters for the Cornell Undergraduate Research Board (CURB) Annual Undergraduate Spring Research Forum.
- Talk:** Exploring The Role Of Symbiotic Fungus Derived Volatiles In The Host-Finding Behavior Of *Sirex noctilio* And *Sirex nigricornis* (Hymenoptera: Siricidae). In: Roles of Biotic Interactions in Invasion Biology Symposium. Entomological Society of America Annual Meeting, Portland, OR
- Talk:** The Pest Side Story. In: Nimble Nozzles, Menacing Maggots, and Lovely Leafrollers: Honoring Harvey Reissig's Contributions to Fruit Pest Management, Entomological Society of America, Eastern Branch meeting, Williamsburg, VA

## Invited talks & Workshops (cont.)

- 2013** **Workshop:** How to prepare posters for the Cornell Undergraduate Research Board (CURB) Annual Undergraduate Fall & Spring Research Forum (multiple workshops).
- Workshop:** Using Statistical Software “R” in Biology Courses. Association for Biology Laboratory education annual meeting. Calgary, AB.
- Workshop:** Mutation and Selection: An Exploration of Antibiotic Resistance in *Serratia marcescens*. Association for Biology Laboratory education annual meeting. Calgary, AB.
- Talk:** No time to be neutral when invasive species jump continents: the *Cactoblastis cactorum* and *Sirex noctilio* stories. In: Strengthening the Connection between Continents –A Symposium Honoring Silvia Dorn's Impact on Applied Entomological Research, Entomological Society of America, Annual meeting, Austin, TX.
- Talk:** Attracting *Sirex noctilio* using visual and olfactory signals., 24th USDA Interagency Research Forum on Invasive Species, Annapolis, MD.
- 2012** **Workshop:** How to prepare posters for the Cornell Undergraduate Research Board (CURB) Annual Undergraduate Fall & Spring Research Forum (multiple workshops).
- Workshop:** Limiting Nutrient and Algal Growth: Designing An Individualized Project. Association for Biology Laboratory Education annual meeting. Chapel Hill, NC.
- Talk:** Trophic interactions in various agro-ecosystems., Department of Plant Protection Biology, SLU Alnarp, Sweden
- Talk:** The new introductory biology program at Cornell: what changed and how it was received., New York State Experimental Station, Geneva, NY