

Christina M. Sluka

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Education

Doctor of Philosophy in Ecology

20 Nov. 2025

Program in Ecology and Evolution

University of Wyoming (UWYO), Laramie, Wyoming, USA

- Dissertation: *Ecological generalists across the urbanization gradient: how flexibility defines raccoon behavior and morphology.*

Advisor: Dr. Merav Ben-David, Department of Zoology and Physiology, UWYO

Bachelor of Science in Animal Behavior

May 2019

Indiana University – Bloomington (IU), Bloomington, Indiana, USA

- Undergraduate Honors Thesis: *Neophilic behavior in wild raccoons (*Procyon lotor*) and other woodland species.* (March 2019)

Advisors: Dr. Jon Crystal, Department of Psychological and Brain Sciences & Dr. Colin Allen, Department of History and Philosophy of Science, IU

Research Experience

Post-Doctoral Research

1 Feb. 2026 - present

Dr. Mark Clementz, Department of Geology and Geophysics, University of Wyoming

- Evolution of the tympanic bulla shape and vocalization in Mysticete and Odontocete whales (Cetacea).
 - Analysis of 3D mesh and CT slice data of tympanic bulla
 - Management of Large Data
- Comparisons of DSLR and smartphone photogrammetry techniques
- Influence of collection tanning and preservation techniques on the stable isotopes of mammalian hair including Carbon, Nitrogen, Oxygen, and Hydrogen.
 - Stable isotope analysis and experimental treatment study
- Early development of a 3D data management tool with AI integration
- Variation in raccoon craniodental morphology under captivity conditions and across space and subspecies designations

Doctoral Research

1 Aug. 2019 – 20 Nov. 2025

Dr. Merav Ben-David, Department of Zoology and Geophysics, University of Wyoming

Dr. Sarah Benson-Amram, Department of Forestry, University of British Columbia, CA

- Management of the University of Wyoming Raccoon Project (UWRP) Trap-Tag-Release program in Laramie, WY
 - Trapping and processing of live raccoons with chemical immobilization and marking with Passive Integrated Transponder (PIT) tags.
 - Collaboration with private and public landowners.
 - Public outreach on nuisance raccoon issues
- Behavioral experiments with raccoons in the field
 - Feeding context and habitat dependent sociality and aggression in raccoons with variable feeding contexts, PIT tag readers, and camera traps
 - Aversion training with semi-automated feeding boxes, PIT tag readers, and camera traps
- Remote tracking of raccoon movements across urbanization gradients
 - Testing the usability of pet trackers (Fi Collars) for small scale wildlife tracking
 - VHF collaring and tracking
 - Paired tracking designs
 - Movement modeling and analysis
 - Range use and habitat selection analyses
- Variation in raccoon craniodental morphology across urbanization gradients
 - Collection of road killed raccoons for UWYMV contribution and research
 - Collaboration with museum collections including NMNH, FMNH, DMNS, CHAS, MVZ, LACM, UTEP, UWBM, UMNH, UWYMV, UMZM, UCM, MSB
 - Photogrammetry of raccoon skulls and hair sampling for stable isotope analysis
 - 3D geometric morphometric analysis across continental scales
- Assessment of domestication-like signals in captive raccoon populations
 - Collaboration with the USDA APHIS – National Wildlife Research Center, Fort Collins, CO.
 - Necropsy assistant for collecting skull material for study
 - Photogrammetry of raccoon skulls and hair sampling for stable isotope analysis
 - 3D geometric morphometric analysis across captive conditions and animal history.

ProQuest Dissertation:

<https://uwyo.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/ecological-generalists-along-urbanization/docview/3347816104/se-2?accountid=14793>

Undergraduate Research

Aug 2015 – May 2019

Dr. Jonathan Crystal, Department of Psychological and Brain Sciences, IU

- Rat handling and behavioral training technician

Undergraduate Research

2017 - 2019

Dr. Jonathan Crystal & Dr. Colin Allen, IU

- Behavioral assessment of Neophobia in Indiana wildlife in natural habitats with an emphasis on raccoons
- Used feeding puzzle box and camera traps.

Undergraduate Research

Aug 2015 – Aug 2018

Dr. Colin Allen, Department of History and Philosophy of Science, IU

- Independent research on domestic dog incidental memory
- Planned and carried out behavioral testing with volunteer dog owners and their dogs

Publications

Sluka, C.M., Lujan, E. *, Benson-Amram, S., & Ben-David, M. Commercial or purpose-built? Comparing two tracking systems on a meso-carnivore. *The Wildlife Society Bulletin*. In review.

Sluka, C.M., Lujan, E. *, Nuruddin, M. *, Riggs, M. *, Davis, E., Benson-Amram, S. & Ben-David, M: Large writ Small: Habitat ecology of raccoons along the urbanization gradient of a small Wyoming town. In preparation.

Sluka, C.M., Lujan, E. *, Nuruddin, M. *, Riggs, M. *, Benson-Amram, S. & Ben-David, M. Context dependent social behaviors in raccoons (*Procyon lotor*) across an urban gradient. In preparation.

Sluka, C. M., Clementz, M. T., Benson-Amram, S., & Ben-David, M. Patterns of raccoon craniodental morphology under urbanization. *Integrative And Comparative Biology*, 2025. <https://doi.org/10.1093/icb/icaf094>

Benson-Amram, S., Griebeling, H. J., and **Sluka, C. M.** The current state of carnivore cognition. *Animal Cognition*. 2022. <https://doi.org/10.1007/s10071-022-01709-2>

Griebeling, H. J., **Sluka, C. M.**, Stanton, L. A., Barrett, L. P., Bastos, J. B., & Benson-Amram, S. How technology can advance the study of animal cognition in the wild. *Current Opinion in Behavioral Sciences*. 2022. <https://doi.org/10.1016/j.cobeha.2022.101120>

Sluka, C.M., Stanko, K., Campbell, A., Caceres, J., Panoz-Brown, D., Wheeler, A., Bradley, J., Allen, C. Incidental Spatial Memory in the Domestic Dog (*Canis familiaris*). *Learning and Behavior*. 2018. <https://doi.org/10.3758/s13420-018-0327-0>

Panoz-Brown, D., Iyer, V., Carey, L.M., **Sluka, C.M.**, Rajic, G., Kestenman, J., Gentry, M.,

Brotheridge, S., Somekh, I., Corbin, H.E., Tucker, K.G., Almeida, B., Hex, S.B, Garcia, K.D., Hohmann, A.G., Crystal, J.D. Replay of Episodic Memories in the Rat. *Current Biology*. 2018. <https://doi.org/10.1016/j.cub.2018.04.006>

Panoz-Brown, D., Carey, L. M., Smith, A. E., Gentry, M., **Sluka, C. M.**, Corbin, H. E., Wu, J.-E., Hohmann, A. G., & Crystal, J. D. The chemotherapeutic agent paclitaxel selectively impairs reversal learning while sparing prior learning, new learning and episodic memory. *Neurobiology of Learning and Memory*. 2017. <https://doi.org/10.1016/j.nlm.2017.08.001>

Panoz-Brown, D., Corbin, H. E., Dalecki, S. J., Gentry, M., Brotheridge, S., **Sluka, C. M.**, Wu, J., Crystal, J. D., Rats Remember Items in Context Using Episodic Memory, *Current Biology*. 2016. <https://doi.org/10.1016/j.cub.2016.08.023>

*Undergraduate mentee

Invited Talks

Sluka, C. M., Clementz, M. T., Benson-Amram, S., & Ben-David, M. 2025. Patterns of raccoon cranial variation under domestication and urbanization. Special Session: Cities as a natural experiment: How organisms are finding different solutions to the same urban problems, Society of Integrative and Comparative Biology Conference, Atlanta, GA.

Sluka, C. M., 2024. The Thing That Stuck: Morphometric Variation in Raccoons Across Urbanization Gradients. Special Session: Legacies of Animal Behavior Programs, Animal Behavior Society Conference, London, ON, CA.

Presentations

Sluka, C. M.[†], Clementz, M. T., Benson-Amram, S., & Ben-David, M. 2026. Raccoon cranial allometry across wild and captive populations. Session: Skulls, Society of Integrative and Comparative Biology Conference, Portland, OR.

Sluka, C. M.[†], Clementz, M. T., Benson-Amram, S., & Ben-David, M. 2025. Patterns of raccoon craniodental morphology under urbanization. Front Range Isotope Day, Laramie, WY. (Poster)

Sluka, C. M.[†], Clementz, M. T., Benson-Amram, S., & Ben-David, M. 2025. Patterns of raccoon cranial variation under domestication and urbanization. Program in Ecology and Evolution Symposium, Laramie, WY.

- Sluka, C. M.**, Clementz, M. T., Benson-Amram, S., & Ben-David, M. 2025. Influences of artificial selection and captivity on raccoon cranial morphology. Special Session: Cities as a natural experiment: How organisms are finding different solutions to the same urban problems, Society of Integrative and Comparative Biology Conference, Atlanta, GA. (Poster)
- Sluka, C. M.**, Benson-Amram, S., & Ben-David, M. 2024. Raccoon (*Procyon lotor*) sociality across feeding contexts. Special session: Legacies of Animal Behavior Programs, Animal Behavior Society Conference, London, ON, CA. (Poster)
- Sluka, C.M.[†]**, Kruschke, J.K., Morrison, M.V., Allen, C., and Crystal, J.D. 2019. Neophilic behavior in wild raccoons (*Procyon lotor*) and other woodland species. International Comparative Cognition Conference, Melbourne, FL. (Poster)
- Sluka, C.M.[†]**, Kruschke, J.K., Morrison, M.V., Allen, C., and Crystal, J.D. 2019. Neophilic behavior in wild raccoons (*Procyon lotor*) and other woodland species. Cox Family Scholarship Symposium, Bloomington, IN. (Poster)
- Panoz-Brown, D., **Sluka, C.M.[†]**, Brotheridge, S., Corbin, H., Dalecki, S., Gentry, M., Wu, J., & Crystal, J. D. 2017. Replay of episodic memory in the rat. 4th Annual Women's Poster Competition by The Center of Excellence for Women in Technology, Bloomington, IN. (Poster)
- Panoz-Brown, D., Carey, L.M., Smith, A.E., Gentry, M., **Sluka, C.M.[†]**, Corbin, H.E., Wu, J.E., Hohmann, A.G., & Crystal, J.D. 2017. The chemotherapeutic agent paclitaxel selectively impairs reversal learning while sparing prior learning, new learning and episodic memory. Greater Indiana Society for Neuroscience Symposium at IU Health Neuroscience Center, Bloomington, IN. (Poster)
- Panoz-Brown, D., **Sluka, C.[†]**, Brotheridge, S., Corbin, H., Dalecki, S., Gentry, M., Wu, J., & Crystal, J. D. 2017. Replay of episodic memory in the rat. 31st Annual National conference on Undergraduate Research, Memphis, TN. (Poster)
- Panoz-Brown, D., **Sluka, C.[†]**, Brotheridge, S., Corbin, H., Dalecki, S., Gentry, M., Wu, J., & Crystal, J. D. 2016. Rats remember items in context using episodic memory. 8th annual Midwest Undergraduate Cognitive Science Conference at Indiana University, Bloomington, IN. (Poster)
- Panoz-Brown, D., **Sluka, C.[†]**, Brotheridge, S., Corbin, H., Dalecki, S., Gentry, M., Wu, J., &

Crystal, J. D. 2016. Rats remember items in context using episodic memory. Animal Behavior Conference at Indiana University, Bloomington, IN. (Poster)

† Presenting author

Teaching Experience

2026 Co-Instructor, UWYO, Geology: 5220 - *Vertebrate Morphology and Evolution*
2023 Co-Instructor, UWYO, Zoology: 5300 – *Wildlife Ecology and Management*
2021, -22, -24 Teaching Assistant, UWYO, Zoology: 5300 – *Wildlife Ecology and Management*
2024-25 Teaching Assistant, UWYO, Zoology: 4900 - *Western Ecosystems*
2021-25 Guest Lecturer, IU, *Animal Behavior Seminar*, 1 lecture period per year
2020 Guest lecturer, UWYO, Zoology: 5300 - *Wildlife Ecology and Management*, 2 lectures and 2 lab periods on wildlife behavior research methods

Professional Activities

2025 Hiring Committee Member, Graduate Student Representative, UWYO Zoology and Physiology Department.

2020 Certificate in Scholarly Writing Techniques, Completed a 4-week seminar on academic and scholarly writing style and technique.

2018-2019 Jesse and Beulah Chanley Cox Research Scholarship Interview Committee Member, Student member of the interview committee for the 2018 and 2019 Cox Research Scholarship interview days.

2017-2019 Indiana University Bicentennial Research Day Committee, Student member of a committee for brainstorming and planning a faculty research showcase for the celebration of Indiana University's Bicentennial Year.

2017-2019 Indiana University College of Arts and Sciences Themester Committee, Student member of a committee for brainstorming and planning the activities for the fall semester of 2018 with relation to the theme; Humans/Animals.

In the Media

- Canadian Broadcasting Corporation - CBC Radio – *The Current* – with Matt Galloway; podcast/radio broadcast and text; <https://www.cbc.ca/radio/thecurrent/raccoons-domestication-science-research-animals-9.6997038>

Grants & Funding

2025	Zoology and Physiology Department Menkens Award (UWYO)
2019-2024	National Science Foundation Graduate Research Fellow
2021-2022	Zoology and Physiology Department Frederick E. Clements Award (UWYO)
2021-2022	Biodiversity Institute Graduate Research Advancement Grant (UWYO)
2015-2019	Jesse H. and Beulah Chanley Cox Research Scholarship (IU)
2018	Hutton International Experiences Program Grant (IU)
2017	Hutton Honors College Summer Research Grant (IU)
2017	Indiana University Research and Teaching Preserve Research Grant (IU)

Honorary Awards

2025	Front Range Isotope Day Best Student Poster Award
2023	Program in Ecology and Evolution Symposium Best Presentation Award
2019	Indiana University Founders Scholar
2019	Hutton Honors College Thesis Award (Indiana University)
2016	Midwest Undergraduate Cognitive Science Conference Honorable Mention Presentation Award

Outreach and Volunteering

2021-Pres.	UWYMV prep and catalog senior volunteer, duties include mammal specimen prep, cataloging, and an instructional assistant.
2024	Carnivoran outreach with US State Forest Service – Medicine Bow National Forest Visitor Center
2022-2024	UWYMV outreach at the UWYO STEM Carnival
2021	Raccoon outreach at the Wyoming State Museum Family Day.
2020-2022	Guest judge at the Wyoming State Science Fair. Evaluated animal science projects from grade and high-school students.
2016-2019	Guest Judge at the Providence Christo-Rey High School Science Fair. Evaluated student work on scientific soundness, communication skills, and content.
2015-2019	Science Olympiad Indiana State Tournament Judge. Officiated robotics and physics related events at the Indiana State Science Olympiad Tournament held at Indiana University.
2018	Indiana University Science Fest Volunteer. Volunteer for the Center for the Integrative Study of Animal Behavior stations at the Science Fest event held at Indiana University discussing Animal – Computer Interaction.

2016-2018 FIRST Lego League Annual All Girls Event Judge. Officiated table competitions at an FLL robotics tournament for all girl FLL teams in the Indiana area held at Indiana University – Purdue University, Indianapolis.

Skills

- Statistical analysis and data management in R and Python
- 3D Geometric Morphometric modeling and analysis R, 3DSlicer, Python, MeshLab
- Photogrammetry methods
- Trap-Tag-Release and processing procedures with raccoons and skunks in the field with chemical immobilization
- Remote tracking with VHF, GPS, Bluetooth, and Passive Integrated Transponder Tag systems
- Museum preparation including skinning, skin treatment, skeletonizing, round specimen preparation, wet specimen preparation, flat skin preparation.
- Museum curatorial including cataloging, ARCTOS cataloging, Georeferencing, pest management.
- Stable Isotope sample preparation