LAYNE SERMERSHEIM

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SUMMARY OF QUALIFICATIONS

A classically trained biologist passionate about making science accessible to diverse audiences. Demonstrated ability to conceptualize, design, and produce creative programs in both academic and museum settings, while organizing and managing logistics. Experienced in educating people of all ages in formal and informal learning spaces. Skilled in managing community-based programming and using data-based assessments to enhance program impact. Expertise in translating high-level scientific concepts into accessible, human-centered experiences that inspire curiosity, creativity, connection, and community.

KEY SKILLS

- **Exhibition content & interpretation**: Creatively engages visitors with scientific concepts - from dinosaur fossil mineralization to climate change
- **Visitor engagement & experiential learning**: Designs hands-on experiences that invite exploration
- **Off-site & community-based programming**: Leads engagement initiatives in rural and underserved areas, connecting museum collections directly with local communities
- **Program management & collaboration**: Coordinates logistics, teams, and cross-departmental projects
- **Research-informed evaluation**: Uses evaluation data to refine program content

PROFESSIONAL MUSEUM EXPERIENCE

Natural History Museum of Utah (NHMU) – Salt Lake City, Utah | April 2023 – Present

Statewide Community Engagement Coordinator | June 2024 – Present

- Design and deliver interactive programs that bring NHMU museum collections and exhibitions directly into communities across Utah, emphasizing accessibility, inclusivity, and meaningful off-site learning experiences
- Develop hands-on learning resources and interpretive guides that make complex science topics approachable for different age groups
- Collaborate with interdisciplinary teams within NHMU – exhibits, research, and marketing – to align programming with museum-wide goals and strategic plans

- Execute the *Traveling Treasures* program, a statewide outreach initiative in partnership with Zions Bank, delivering curated exhibits, hands-on STEM activities, and educational events to 12 different bank branch locations throughout the year, prioritizing Utah's rural communities
- Manage the *Explorer Corps* program, a statewide adventure that features 29 destination markers (one in every county), a mobile app, and a physical passport system to explore Utah's natural and cultural history
- Cultivate long-term, trust-based partnerships with community organizations, tribal nations, university departments, and corporate entities to co-create programs and expand the public's access to resources
- Create unique, community-centered engagement experiences, such as bringing NHMU's dinosaur van to a national car show or producing *Dinos & Dice*, a tabletop gaming series within the museum's exhibits

Learning Sciences Research Assistant | April 2024 – June 2024[1]
Principal Investigator: Lynne Zummo, Ph.D., Curator of Learning Sciences at NHMU

- Designed a research project funded by the National Science Foundation (NSF) which investigated how gallery interpreters' (GIs) pre-existing values and interests influenced climate change conversations with museum visitors in the *Climate of Hope* exhibit *(CoH)*
- Planned accomplishments:[2]
    - Analyze visitor-GI interactions to identify conversational approaches that support productive learning and engagement around climate change
    - Collaborate with curators and exhibit development team to apply research findings to the design and planned improvement of *CoH*, intending to enhance visitor engagement and understanding of climate change concepts
    - Co-author manuscripts documenting research methodology and outcomes
    - Recruit a second cohort of *CoH* GIs to implement and test updates to the training program attained from initial research findings

Public Learning Specialist | July 2023 – May 2024

- Launched the *Climate of Hope* (CoH) gallery interpreter (GI) program, enhancing visitor engagement through interactive interpretation

[1] Position concluded upon acceptance of full-time, Statewide Community Engagement Coordinator position in accordance with institutional policies

[2] In August 2023, an Advancing Informal STEM Learning Program (AISL) grant from the National Science Foundation (NSF) was awarded to NHMU's Curator of Learning Sciences, Dr. Lynne Zummo. Zummo's project was titled "A Climate of Hope: Investigating learning at an innovative exhibit towards new knowledge, theory, and practice of climate change learning with diverse audiences." The grant, and therefore its funding, was **terminated on 18 April 2025, due to "updated guidance on the priorities" of the NSF, based on presidential executive orders.** NSF has stated that "Projects submitted to legally mandated broadening participation programs must not directly or indirectly preference or exclude any Americans on the basis of protected characteristics. Projects that have limited impact or rely on DEI frameworks or advocacy do not effectuate NSF priorities." For more information on Zummo's terminated grant, please see https://education.utah.edu/news/2024-lynne-zummo-nsf-grant.php.

- Collaborated with multiple NHMU departments to design and produce accessible interpretation props (e.g., Desert Biome Food Web Puzzle) to support inclusive, immersive learning environments
- Coordinated with 20+ statewide community partners, from national organizations to local artists, to organize their participation in DinoFest, a weekend-long museum festival, fostering community engagement
- Supported the relaunch of the anthropology-based GI program, contributing to content development and training initiatives
- Edited the *Connecting YOU to Climate Change* GI training curriculum for other teams within the Education and Community Engagement department (ECE) to use in their own programming

Public Programs and Exhibits Intern | April – July 2023
Mentors: Tim Lee, Director of Exhibits and Dane Crowton, Public Programs Coordinator

- Researched and curated Utah-based conservation success stories to build *What's happening?* exhibit case content and strengthen visitor interpretation of the special exhibition *Wild World*
- Coordinated acquisition and copyright agreements for photographs from 12+ community partners, ensuring diverse community representation
- Integrated collected photographs into the *Climate of Hope* exhibit (*CoH*) as backdrops and interactives
- Recruited and prepared a diverse cohort of 13 Gallery Interpreters (GIs) to support the opening of *CoH* in November 2023, emphasizing personal climate change stories and visitor engagement
- Designed the *Connecting YOU to Climate Change* GI training curriculum, incorporating evidence-based communication strategies (FrameWorks, NNOCCI), audience research (Yale's "Six Americas"), and connections to NHMU's permanent galleries to train GIs in effective climate interpretations
- Managed and organized the 7-month *Connecting YOU to Climate Change* training program, overseeing scheduling, budgeting, and acquisition of interpretive resources (e.g., *Saving Us* by Katharine Hayhoe, climate communication toolkits, and curatorial research)
- Enhanced digital and in-gallery training materials by updating content with current curatorial research and designing visitor-centered signage in collaboration with Public Programs staff

TEACHING AND EDUCATIONAL EXPERIENCE

Formal Education

Utah State University - Logan, Utah | Spring 2021 – Spring 2024
Graduate Teaching Assistant

- Performed teaching assistant duties for 4 different courses over 5 semesters at Utah State University
- Developed review material for exams, lead exam review sessions, and graded class projects and exams for BIOL-5600: Comparative Physiology
- Developed weekly quizzes, assisted students in weekly lab tasks, and ensured lab safety measures were being followed in BIOL-2420: Human Physiology
- Guided 24 undergraduate students through semester long research projects while teaching scientific methods, demonstrating lab equipment use, and providing constructive feedback on assignments in BIOL-1615/1625: Introduction to Biology Laboratory I/II
- Guest lectured for 160 undergraduate students and led class discussions for BIOL-1010: Biology and the Citizen

Jasper Elementary School – Jasper, Indiana | September - December 2020
Title I Assistant and Substitute Teacher for grades PreK-5

- Led small group (7-8 students) instruction for students in the Title I program
- Worked one-on-one with students struggling in reading and grammar
- Managed PreK and special needs students while the head teacher was teaching
- Coordinated with other Title I assistants to lead joint-small group sessions
- Served as a substitute teacher when needed
- Taught math, science, reading, and grammar lessons to elementary students
- Managed classrooms of up to 30 students at one time
- Relayed information about classroom status and attendance to office staff

Informal Education

Utah State University Science Unwrapped – Logan, Utah | 2022 – 2023
Outreach presenter

- Developed monthly outreach activities from current research methods
- Describe technical research terms to the public
- Collaborated with other graduate students to improve activities

Stokes Nature Center Outreach – Logan, Utah | April 2021
Outreach activity developer

- Collaborated with other graduate students to create "Bird's Eye View" game for the public to enjoy at Stokes Nature Center

WonderLab Museum of Science, Health and Technology – Bloomington, Indiana | August 2018 - May 2019
Animal Care and Education Intern

- Educated adults and children on the history, behaviors, and conservation methods of over 10 different animals' species
- Actively engaged museum guests with live animal demonstrations using proper handling techniques

- Prepared meals for 7 different species of animals according to each dietary need
- Awarded the 2019 President's Volunteer Service Award (Silver) for volunteer work that has positively impacted the surrounding community
- Created an education plan with signage to make animal habitats more appealing to museum guests
- Published a species profile page on the museum website

REAEARCH EXPERIENCE

Utah State University | Department of Biology | January 2021 – January 2024
Master's student | Principal Investigator: Susannah S. French, Ph.D.

- Specialized in the effects of anthropogenic disturbances to reptile behavior, morphology, and physiology
- Conducted field research and managed four different side-blotched lizard (*Uta stansburiana*) field sites in St. George, UT USA
- Observed and recorded behavior of whiptail lizards (*Aspidoscelis neotesselata*) on Fort Carson Army Base in Colorado Springs, CO USA – Co-authored research findings gained wide media coverage (**CNN, National Geographic, Smithsonian**), highlighting real-world impact
- Collected data from Bahamian rock iguanas (*Cyclura cychlura*) in the Exumas, Bahamas aboard Shedd Aquarium's research vessel, the *R/V Coral Reef II* - project lead: Dr. Chuck Knapp, VP of Conservation Research at Shedd Aquarium in Chicago, IL USA
- Analyzed and organized data in multiple statistical analyses programs like RStudio and ArcGIS
- Mentored an undergraduate student throughout the field prep, data collection, and publication process
- Presented research at international academic conferences
- Published findings in peer-reviewed academic journals

Indiana University | Department of Biology | March 2018 - July 2020
Undergraduate researcher | Principal Investigator: Kimberly A. Rosvall, Ph.D.

- Checked and classified new bird nests at 10 different field sites across central Indiana
- Banded songbirds with Fish and Wildlife Service bands
- Trained undergraduate lab assistants how to check boxes and record data in Google Suites
- Completed a 10-week National Science Foundation (NSF) Research Experience for Undergraduates (REU) project through the Center of the Integrative Study of Animal Behavior (CISAB) at Indiana University
    - Created an artificial heat wave in experimental nest boxes during the chick period
    - Developed and applied field techniques such as collecting blood, banding, capture, and precise morphological data

- Constructed a protocol for logging and scoring songbird behavior data using best practices in behavioral quantification
- Presented results at an international conference
- Published results in a peer-reviewed academic journal

EDUCATION

Utah State University - Logan, Utah, USA | January 2021 - December 2023
Master of Science in Ecology
Advisor: Susannah French, Ph.D.
Graduate positions:
Biology Graduate Student Association Social Chair -- January 2022 - 2023
Ecology Center Seminar Series Co-Chair -- January 2022 - January 2023
Ecology Center Seminar Series Committee member -- February 2020 - February 2021

Indiana University - Bloomington, Indiana, USA | August 2016 - May 2020
Bachelor of Science in Animal Behavior, graduated with high distinction
Minor in Biology

Awards

Ecology Center Research Award – April 2022
Joseph E. Greaves Endowed Scholarship – March 2022
Matt Del Grosso Endowed Graduate Research Award – April 2021
Biology Graduate Student Association Travel Award – May 2021
Rocky Mountain Biological Laboratory Travel Award – November 2019

Certificates

Explore College Teaching Certificate – January 2022 – January 2024
Substitute Teaching Permit – August 2020

Academic Publications

1. **Sermersheim, L.O**., Virgin, E.E., Furtado, A.P., French, S.S. (2023). Behavioral and morphological responses to urbanization in free-living side-blotched lizards (*Uta stansburiana*). *In prep.*
2. Woodruff, M.J., **Sermersheim, L.O**., Wolf, S.E, Rosvall, K.A. (2023). Organismal effects of heat in a fixed ecological niche: Implications on the role of behavioral buffering in our changing world. *Science of The Total Environment.*
3. Marchetti, J.R., Virgin, E.E., Lewis, E.L., Hess, S.C., Ki, K.C., **Sermersheim, L.O**., Furtado, A.P., French, S.S. (2023). Invasive frogs show persistent elevational differences and acclimation to colder temperatures. *Journal of Thermal Biology*

4. Kepas, M., **Sermersheim, L.O.**, Hudson, S.B., Lehmicke, A.J. Joy, French, S.S., Aubry, L.M. (2023). Behavior, Stress, and Metabolism of a Parthenogenic Lizard in response to Flyover Noise. *Frontiers in Amphibian and Reptile Science.* (co-first authored manuscript)
    a. Publication viewed over 6,000 times and circulated over **92 news outlets**, including **CNN**, **National Geographic**, and **Smithsonian Magazine**
5. Marchetti, J.R., French, S.S., Virgin, E.E., Lewis, E.L., Ki, K.C., **Sermersheim, L.O.**, Brusch IV, G.A., Beard, K.H. (2023). *Invading non-native frogs changes microhabitats and physiology along an elevation gradient.* Accepted in *Journal of Experimental Zoology.*

Educational Publications

1. **Sermersheim, L.O.** 2019. Meet Cleese, the Rough-Skinned Newt! WonderLab Alive! For WonderLab Museum of Science, Health and Technology. https://wonderlab.org/meet-cleese-the-rough-skinned-newt/.
2. **Sermersheim, L.O.,** Crowton, D., Zummo, L. (2023). Using cohort-based gallery interpretation to effectively communicate climate change science in museum settings. *In prep.* – **Project funding dismissed by the National Science Foundation (NSF) in Summer 2025.**
3. Crowton, D., **Sermersheim, L.O.,** Vitti, K., Thompson, L., Zummo, L. (2023). Developing gallery interpretation cohorts in museum settings. *In prep.* **Project funding dismissed by the National Science Foundation (NSF) in Summer 2025.**