

Curriculum Vitae

Erika J. Ibarra-Garibay2200 Osborne Dr. • Ames, IA 50011 • egaribay@iastate.edu • www.linkedin.com/in/erika-ibarra-garibay**EDUCATION**

Master of Science, Ecology and Evolutionary Biology (*in progress*) Aug 2021-Dec 2023
 Iowa State University (ISU) Ames, IA
 Adviser: Dr. Amy L. Toth

Bachelor of Science, Wildlife Biology May 2018
Associates, Business Administration May 2018
 Adams State University Alamosa, CO
 Advisers: Dr. Kristy L. Duran & Dr. Timothy Armstrong

AREAS OF INTEREST

Pollinator and wildlife conservation, behavioral ecology, conservation ecology, physiological ecology, ecosystem ecology, evolutionary biology, animal behavior, policymaking

RESEARCH EXPERIENCE

Graduate Research Assistant Jul 2020-Present
 Ecology, Evolution, and Organismal Biology Department (EEOB), ISU Ames, IA

Rusty Patched and American Bumble Bee project May 2022-Present

- **Goal:** to assess the health of the endangered *Bombus affinis* and threatened *Bombus pensylvanicus* to help inform habitat management strategies for the United States Partners for Fish and Wildlife Program and recovery planning targets.
- **Methods:** Conduct intensive surveys throughout Iowa, which include recording body measurements and collecting bee DNA and pollen samples.

Non-Flight Thermogenesis in Iowan Bumble Bees project Mar 2021-Pres.

- **Goal:** further understanding the thermal physiology of different Iowan bumble bee species. More specifically, to understand why some species are declining in numbers while others are stable.
- **Methods:** Infrared thermal imaging was employed to capture the non-flight thermogenesis process (i.e., recovery from torpor after chilling) of *Bombus impatiens* (stable species) and *Bombus auricomus* (less-stable species) queens that were exposed to current and future warming climate conditions.

Non-flight thermogenesis in Patagonian bumble bees project Jul 2020 – Pres.

- **Goal:** to further understand the thermal physiology of the endangered *Bombus dahlbomii* and the invasive *Bombus terrestris* in Patagonia, Argentina.
- **Methods:** Processed thermal images of native and invasive bumble bees and utilized a new R programming package to conduct statistical data analysis

TEACHING, MENTORSHIP, AND EXTENSION EXPERIENCE

Undergraduate Mentor 2021-Pres.
Iowa State University Ames, IA

- Provide mentorship to undergraduate students on their academic journey
- Provide hands-on research experience in a field and laboratory setting
- Allow students to take their learned hands-on experience and apply them to their very own manageable research project while providing guidance throughout
- Help students with presenting their project findings at conferences and/or symposiums
- Assist with enhancing students' soft skills such as communication, time management, and problem-solving

Undergraduate Mentees

Denisse Camarena, ISU Bee Squad Intern May 2022-Pres.

- Current position: finishing undergraduate degree
- Assisted with: field surveys and bee health data collection, recording and organizing data and results in specified forms, transferring data into digital files for analysis
- Independent project: developing a basic description of the structure and types of hairs present on *Bombus* species

Stephanie Paris, ISU Bee Squad Intern

- Assisted With: field surveys and bee health data collection, recording and organizing data and results in specified forms, transferring data into digital files for analysis
- Current position: finishing undergraduate degree

Lexie Schwartz, Technician Aug 2021-Pres.

- Assisted With: processing infrared thermal images, recording data and results in specified forms
- Current position: finishing undergraduate degree

Julianna Hernandez Garcia, ISU Bee Squad Intern May 2020-May 2021

- Assisted With: field collections, in-laboratory bumble bee care, recording data and results in specified forms
- Current Position: Veterinary medicine applicant

Abby Klahs, ISU Bee Squad Intern May 2020-May 2021

- Assisted With: field collections, in-laboratory bumble bee care, recording data and results in specified forms, processing infrared thermal images
- Independent project: exploring behavioral and food consumption changes in wild-caught bumblebees through an acclimation period and temperature treatments in a laboratory setting
- Current Position: Graduate student at Southeastern Louisiana University

Paige Hollenberg, Technician Mar 2020-May 2022

- Assisted With: field collections, in-laboratory bumble bee care, recording data and results in specified forms, processing infrared thermal images
- Current Position: finishing undergraduate degree

AmeriCorps 4-H Environmental Educator Jan 2018-Oct 2019
Iowa State University, Extension and Outreach Ames, IA

- Facilitated native bee, honeybee, and monarch curriculums in both classroom settings and out-of-school events to help youth learn and understand the importance of pollinators

- Collaborated with stakeholders connected to monarch butterfly and native bee conservation
- Developed resources that supported underrepresented youth such as translating native bee curriculum to predominately Spanish speakers
- Presented current pollinator conservation efforts throughout Iowa to the public
- Utilized Geographic Information System (GIS) to develop both maps and story maps to document progress and impact of Monarchs Eggs Project throughout Iowa
- Attended weekly Monarch Research Team meetings to learn and stay current on research and conservation efforts related to the monarch butterfly

Freshman Mentor

Aug 2016-Dec 2016

Adams State University

Alamosa, CO

- Helped mentees in identifying educational, professional, and life goals
- Guided mentees with exploring different career paths and researching the needed educational coursework for those different career paths
- Educated mentees in the development of creating resumes by identifying their skills, ways to strengthen those skills, and ways to develop other necessary skills
- Facilitated mock interviews and provided constructive feedback

New Student Orientation Leader

Aug 2015, Jan 2016, Aug 2016

Adams State University

Alamosa, CO

- Conveyed information to freshmen, transfer students, and their families about the university's programs and services
- Assisted in the preparation of activities and materials
- Upheld and enforced all aspects of the university conduct code

ADDITIONAL PROFESSIONAL EXPERIENCE**Biological Field Technician, Crew Leader**

May 2020-Oct 2020

Western EcoSystems Technology, Inc.

Iowa Falls, IA

- Conducted standardized mortality searches at multiple wind energy facilities following U.S. Fish and Wildlife Services Special Purpose Utility Permit (SPUT) protocol
- Communicated and coordinated daily with 5-person field technicians, onsite/offsite work check ins, daily safety calls, and troubleshooting staff field issues
- Quality assurance and quality control of team data for monthly client summaries
- Scheduled/conducted rate of detection trials on field staff during standardized mortality searches
- Effectively communicated work progress and project deadlines with managers on a weekly basis

Wildlife Biologist

Oct 2019-May 2020

Bureau of Land Management

Ely, NV

- Conducted a variety of wildlife surveys, such as winter raptor surveys and Greater Sage-Grouse lek counts
- Assisted natural resource specialists with habitat restoration projects
- Worked with other federal and state agencies and non-governmental partners to execute projects as they applied to wildlife ecology
- Member of an interdisciplinary team responsible for reviewing and writing NEPA documents for proposed projects on federal lands
- Utilized GIS software to generate/edit Greater-Sage Grouse seasonal habitat delineation maps

Wildlife Surveys Assistant

Jun 2019-Oct 2019

Iowa Department of Natural Resources (DNR)

Boone, IA

- Scanned and entered all mail-in surveys of hunters, anglers, trappers, farmers, landowners, and other stakeholders that are included in the DNR's annual species population monitoring
- Corrected any scanning errors and manually entered data
- Assisted in data gathering and entry for deer trail camera project
 - Set up trail cameras
 - Analyzed image data
 - Quantified image data

Biological Science Technician

Aug 2018-Oct 2018

Iowa State University

Ames, IA

- Conducted Multiple Species Inventory and Monitoring (MSIM) surveys to gather data on the diversity and abundance of mammals, amphibians, reptiles, fish, butterflies, odonates, and crayfish throughout Iowa
- Executed a variety of methods for MSIM surveys such as Sherman traps and electrofishing
- Entered survey data into the DNR's online database

Physical Science Intern

May 2018-Aug 2018

Bureau of Land Management

Gunnison, CO

- Inventoried and monitored abandoned mines to update inventory database using GIS Collector and Survey123 applications
- Identified plant species and determined their successful growth on reclaimed mine sites and, if needed, provided improvement recommendations
- Determined level of closure needed on mine sites regarding public safety and wildlife needs
- Exercised safety protocols when monitoring mines that were potentially dangerous by effectively communicating with supervisor on whereabouts, and reviewed risk management procedures before and after each day
- Kept records of week-by-week duties for internship final report that was presented to BLM personnel

Outdoor Recreation Intern

May 2017-May 2018

Bureau of Land Management

Monte Vista, CO

- Part of team that maintained campgrounds, hiking and climbing trails, and primitive access roads
- Utilized GIS Survey123 and Collector applications to assign and monitor travel management projects
- Provided customer service to all constituents by maintaining positive relationships by listening to visitor concerns, solving issues when possible, and directing visitors to correct resources
- Handled confidential and sensitive material and documents
- Completed independent projects such as creating educational workshops and supply inventory system as well as researched various cost saving options
- Initiated contact with organizations to promote the BLM's mission by educating students and acting as a liaison at large-scale programs such as providing environmental outreach programs to K-12 and college fairs
- Identified and surveyed migratory birds at the Blanca Wetlands via stationary count method and/or bird calls
- Attained macroinvertebrate samples at Blanca Wetlands to ensure adequate food supply for birds
- Assisted in Bighorn Sheep count to track migration routes

PRESENTATIONS

Ibarra-Garibay, E.J., Poore, C.L., Riddell E., Toth, A.L., 2022. *It's getting hot out here: thermal traits of bumble bee species in the face of climate change*. National Meeting of the Entomological Society of America. Vancouver, British Columbia, Canada. (Oral)

Ibarra-Garibay, E.J., Toth, A.L., Zattara, E., Arbetman, M., Marcelo, A., Morales, C., 2022. *Comparison of health indicators between invasive and native Patagonian bumble bees*. Regional Meeting of the North Central Branch Meeting of the Entomological Society of America. Minneapolis, MN. (Poster)

Ibarra-Garibay, E.J. 2021. *Utilizing Thermal Physiology to Predict Bumble Bee Declines*. Iowa Pollinator Conservation Working Group. Ames, IA. (Invited)

Ibarra-Garibay, E.J., Mix, J., Cerny, T., Armstrong, T. 2018. *Lions, Bats, and Bears – Oh Mine! Monitoring Mine Usage in the Sangre de Cristo Mountains*. Regional Meeting of the Western Division I of the Tri-Beta Biological Honor Society. Greeley, CO. (Poster)

Cerny, T., **Ibarra-Garibay, E.J.**, Mix, J., Armstrong, T. 2018. *Monitoring the use of abandoned mines by wildlife in the Sangre de Cristo Mountain range*. Regional Meeting of the Colorado Chapter of the Wildlife Society, Grand Junction, CO. (Poster)

Ibarra-Garibay, E.J. 2019. *Monarch Conservation Education*. 5th Annual Monarchs and Music Festival. Elkader, IA. (Oral)

Ibarra-Garibay, E.J., 2018. *The Future of North American Bats: Efforts in Battling White-Nose Syndrome*. Undergraduate Thesis. Alamosa, CO. (Oral)

Media Interviews

2022 “The Bee & Wasp Squad” ISU, College of Agriculture and Life Sciences

2022 “An ISU research project is tracking endangered bees across Iowa” ISU News Service

2021 “Unexpected discoveries: Iowa State students, alum surprised to find endangered bee species in Ames” ISU, College of Agriculture and Life Sciences

PUBLICATIONS

Armstrong, T. A., Lahiri, C., Moran, W. K., Fuller, B. D., Mix, J. A., Cerny, T. M., & **Ibarra-Garibay, E. J.** (2022). Wildlife visitation at abandoned mines. *The Journal of Wildlife Management*.

AWARDS, GRANTS, AND SCHOLARSHIPS (\$31,718.95)

Awards (\$27,676)

Finch Fund Award, ISU, \$4,000	Nov 2022
George A. Jackson Award, ISU, \$17,057.95	Aug 2021-Jan 2023
Ecology and Evolutionary Biology First Year Fellowship, ISU, \$5,941	Aug 2021-Jan 2022
Education Award, AmeriCorps Service, \$2,900	Oct 2019
2nd Place in Organismal Biology Poster Presentation, Tri-Beta Regional Meeting, n/a	Apr 2018
Education Award, AmeriCorps Service, \$1,500	Aug 2016

Grants (\$8,635)

Professional Development Grant, ISU, \$400	Nov 2022
Colorado-Wyoming Louis Stokes Alliance for Minority Grant, National Science Foundation	
Travel (funded a total of 9 conferences), \$6,200	Oct 2014-Apr 2018
Research (funded undergraduate project) \$2035	May 2017

Scholarships (\$1,685)

Lorraine Young Memorial Scholarship, \$1,000	Aug 2017
Milestone Scholarship, \$500	Aug 2016
Athletic Scholarship, \$185	Aug 2012

LEADERSHIP SERVICE

Alliance for Disability Awareness Oct 2021-Pres.

Mission: advocate for accessibility and flexibility for all at ISU, practicing disability justice at our own pace, re-energizing with social events, and providing a supportive space for each other

Treasurer Aug 2022-Pres.

- Responsible for all student organization finances including approving and accurately recording all financial transactions
- Adhere to all state and university financial policies and procedures
- Attend committee meetings and present budget report

EEOB Graduate Student Organization Aug 2021-Pres.

Mission: facilitate the exchange of ideas between EEOB graduate students and faculty, provide a forum for multidisciplinary thinking and discussion among the many sub-disciplines within the EEOB

Department

Treasurer Aug 2021-Pres.

- Responsible for all student organization finances including approving and accurately recording all financial transactions
- Adhere to all state and university financial policies and procedures
- Attend committee meetings and present budget report

Tri-Beta – Biological Honor Society Aug 2013-May 2018

Honor society for students dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research

Senate representative Aug 2014-May 2015

- Attended student government meetings
- voted on bills and funding requests
- relayed information back to club members

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Jan 2014-Pres.

Mission: Inclusive organization dedicated to fostering the success of Chicanos/Hispanics and Native Americans, from college students to professionals, in attaining advanced degrees, careers, and positions of leadership in STEM

Club Liaison Jan 2017-May 2017

- Functioned as primary contact with the chapter's national office
- Reported club's current events to the national office
- Submitted the chapter's annual report

Secretary

Aug 2015-May 2016

- Scheduled meetings
- Maintained accurate attendance
- Kept minutes and managed club's email account

Cultural Awareness and Student Achievement

Aug 2017-May 2018

Mission: to foster an environment that promotes learning, celebrates cultures, and develops leadership and student success with a global perspective

- Developed, organized and executed independent projects, such as hosting a car workshop for women
- In charge of showing a documentary on the life of civil rights activist Dolores Huerta

COMMUNITY SERVICE

Pollinator Fest

Jun 2021

Reiman Gardens, ISU

Ames, IA

- Organized activity and educated youth on insect and floral anatomy to understand pollinator-plant relationships; youth learned the different anatomical parts of both bees and flowers, learned how to use a hand-held microscope to view bee hairs and pollen grains; activity was part of required curriculum for boy- and girl-scouts earning their insect badge

Bird Breeding Survey Volunteer

Jun 2018

Rocky Mountain Biological Laboratory

Crested Butte, CO

- Conducted bird counts for the annual survey of breeding birds in the local area

Butterfly Survey Volunteer

Jun 2018

Rocky Mountain Biological Laboratory

Crested Butte, CO

- Assisted Ph.D. student in capturing, identifying, if possible, and photographing butterflies as well as uploading photographs onto iNaturalist

Duck Banding Volunteer

Mar 2018

U.S Fish and Wildlife Services

Monte Vista, CO

- Helped capture and band migratory ducks in addition to identifying, sexing, and recording

Sandhill Cranes Festival Volunteer

Oct 2015, Mar 2016, Mar 2017

Bureau of Land Management

Monte Vista, CO

- Helped the Bureau of Land Management (BLM) educate youth about sandhill crane migration patterns and issues they encounter
- Tended to the BLM booth and answered general questions regarding Sandhill Cranes

PROFESSIONAL MEMBERSHIPS

Ecological Society of America

Jan 2023

International Union for The Study of Social Insects

Jan 2023

Entomological Society of America

Mar 2022-Pres.

SACNAS

Apr 2014-Pres.

Tri-Beta Biological Honor Society

Apr 2014-May 2018

LANGUAGE SKILLS

Spanish (native)

English (fluent)

TECHNOLOGY SKILLS

Microsoft Office 265

ArcGIS (Geographic Information Systems)

R/RStudio Statistical Analysis Programming Language

- Experienced in data formatting, statistical analyses, and data visualization
- Trained in Tidyverse package

Teledyne FLIR equipment

- Skilled in utilizing FLIR infrared thermal cameras and Thermal Studio software