

Charles Clement Lehnen

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Self-sufficient field ecologist and conservation biologist passionate about rewilding, translating ecological principles into management decisions, and the cascading ecological effects of species interactions. Experienced in independently designing, funding, and executing large-scale, internationally collaborative field projects from conception to publication. Skilled in advanced statistical and geospatial analyses, scientific communication, and mentorship.

Education -

Doctoral Candidate: Integrative and Evolutionary Biology (2021-present)

University of Southern California (USC); Dornsife College of Letters, Arts and Sciences

January 2023 - *Qualified for doctoral candidacy*

Provost Fellow; Wrigley Institute Graduate Fellow; Gold Family Fellow; JEP STEM Education Fellow

Bachelor of Science: Biology; Minors: Mathematics, Spanish (2008-2012)

University of Minnesota (UMN); College of Biological Sciences (CBS)

Honors Program; CBS Dean's Scholar Leadership Program

Related Coursework -

Undergraduate Level : Advanced Biology & Lab, Medical Terminology, Human Physiology & Lab, Plant Physiology & Lab, Zoology & Lab, Animal Behavior & Lab, Tropical Ecology & Lab, Organic Chemistry & Lab, Biochemistry, Genetics, Cellular Biology, Bioinformatic Analysis, Multivariable Calculus, Applied Linear Algebra

Graduate Level : Basic theory of probability & statistics; Principles of Programming for Data Science; Evolution & Human Biology; Spatial Data Acquisition; Principles of Spatial Data Analysis; Spatial Modeling with GIS; Center of Excellence in Teaching (CET) Future Faculty Teaching Institute certificate; Data Science at Scale; Statistical Methods for Environmental Scientists

Selected Employment -

Doctoral Dissertation Research

(August 2021 - Present)

University of Southern California (USC); Galapagos Conservancy, Iniciativa Galápagos

Dr. Craig Stanford, Dr. Washington Tapia

- Conducted an exhaustive literature review to formulate a robust research proposal, ensuring a solid foundation for my dissertation project
- Collaborated closely with my screening and qualifying exam committees, as well as international partners like Dr. Tapia from the Galapagos Conservancy, to refine and strengthen my research proposal
- Achieved a significant milestone by passing qualifying exams in January 2023, positioning defense trajectory ahead of schedule
- Successfully secured funding for a 2023 pilot season by applying and being awarded a total of seven small grants in 2023

- Orchestrated all logistics in collaboration with a global team, including hiring field assistants, securing travel and research permits, chartering a research boat, procuring equipment, and organizing rations
- Led a dedicated field team on the protected island of Santa Fe for a 3-week pilot season, where we camped and collected multi-spectral drone imagery of the entire island, gathered isotope samples from the keratin of IUCN critically endangered Española Galapagos Tortoises (*Chelonoidis niger hoodensis*) and island-endemic Santa Fe Land Iguanas (*Conolophus pallidus*), and installed camera traps to monitor and gather feeding behaviors while ensuring all protocols I developed adhered to the strict guidelines and regulations set by the Galapagos National Park to safeguard wildlife as well as researchers
- Engaged in continuous learning by actively attending workshops and consulting with researchers worldwide to enhance the research quality
- Proactively shared preliminary results and methodologies through community presentations, fostering transparency and community engagement

Ecology and Biodiversity Teaching Assistant

(January - May 2023; January - May 2024, January - May 2025)

University of Southern California (USC)

Dr. Laura Melissa Guzman; Dr. Cameron Egan; Dr. Trond Sigurdson

- The course “BISC 499: Ecology and Biodiversity” was separated into a weekly professor-led lecture and teaching assistant-led quantitative ecology labs
- As a new course, I worked closely with the course lecturers to design the course syllabus
- Created all lab handouts and assignments in R using Quarto for the course, which will be used during future semesters:
https://charleslehnem.github.io/BISC_404_Ecology_and_Biodiversity/
- Provided timely and frequent feedback to students
- Assisted in writing, administering, and grading exams
- Recipient of “BISC Outstanding TA Award”

JEP STEM Education Fellow

(August - December 2023)

Joint Educational Project (JEP); University of Southern California (USC)

Dr. Dieuwertje Kast; Jessica Stellman

- Primary educator for a virtual K-5 afterschool program catered to 36 inner-city Los Angeles students, exposing students to a more diverse concept of STEM
- Spearheaded the design and implementation of curriculum which included crafting science experiments, sourcing and dispatching materials, and conducting four lessons per week.
- Leveraged my global connections by reaching out to diverse researchers from various fields to appear as guest presenters, emphasizing the multifaceted nature of science and showcasing the diversity within the scientific community
- Managed and provided mentorship to an undergraduate assistant, fostering their growth and ensuring effective collaboration.
- Maintained open lines of communication with parents, ensuring clarity and understanding by conversing in both English and Spanish.
- Played a role in the analysis of the program's efficacy, ensuring continuous improvement and alignment with JEP's mission

Anthropology and General Biology Teaching Assistant (August 2021 - December 2022)
University of Southern California (USC)

Dr. Craig Stanford; Dr. Maureen McCarthy

- The course “HBIO 200: Human Biology: The Human Animal” was separated into professor-led lectures and teaching assistant-led labs
- Prepared complete lab lectures and organized lab materials which primary consisted of an extensive library of fossil casts
- Designed and implemented two new lab units, including a unit on brain anatomy/functional morphology using an Anatomage Table
- Provided timely and frequent feedback to students, meeting regularly one-on-one with students via office hours as primary liaison between students and the course instructor
- Assisted in writing, administering, and grading exams as well as essays
- Recipient of “BISC Outstanding TA Award”

Subterranean Technician (February 2020 - August 2021)

Bat Conservation International (BCI); U.S. Bureau of Land Management (BLM); New Mexico Abandoned Mine Land (AML) Program

Shawn Thomas; Jackson Bain

- Located, identified, and evaluated biological relevance of abandoned mines serving as bat roosting flyover sites or hibernacula. Sites were reached through highly technical 4x4 off-roading, extensive backcountry hiking in inclement conditions, and vertical ropework.
- Utilized LiDAR to create complete 3D models of underground features
- Used satellite imagery, ArcGIS, GPS, and orienteering to plan expeditions and collect highly accurate geospatial data (+/- 20cm)
- Gained experience in bat taxonomy and bat handling
- Swabbed bats directly for white-nose syndrome (*Pseudogymnoascus destructans*) and collected representative guano samples for molecular analysis
- Trained in advanced ropework techniques including anchoring and vertical rescue
- Specially trained in underground radiation, radon, and hazardous gas protocols, particularly for work in uranium mines
- Conducted pre-development avian surveys at mine closure sites utilizing skills in visual and auditory bird identification and nest surveys in order to mitigate nesting disruption

Researcher I; Visiting Scientist (June 2016 - August 2019)

University of Minnesota (UMN); Charles Darwin Foundation (CDF)

Dr. Charlotte Causton; Dr. George Heimpel; Dr. Bradley Sinclair

- Self-directed research (field seasons Summer 2016, Summer 2018, Summer 2019) to explore the natural history of Galapagos Diptera for the international Philornis Working Group focusing on the devastatingly invasive fly *Philornis downsi* (Diptera: Muscidae) and possible biocontrol agents including parasitoid wasps
- Manipulated variables in colonization and documented emergence from varying organic substrates with a focus on the dung of Giant Galapagos Tortoises (*Chelonoidis spp.*)
- Trained in BSL-2 quarantine safety protocols
- Developed adeptness in Diptera identification and taxonomic techniques
- Communicated consistently with multiple local and international collaborators
- Supervised four assistants and developed a guide to be used in the future

- Formally presented my work to various institutions including the Galapagos biosecurity agency (ABG), environmental ministry of Ecuador, Galapagos National Park Directorate, Charles Darwin Foundation, National Geographic expeditions, and community groups.
- Coordinated all associated research logistics
- Worked very closely with the CDF invertebrates collection. Formally submitted specimens and various novel species record specimens into the official CDF collection.
- Currently analyzing data, primarily with R, and composing a publication of findings as first author with mentor/co-author Dr. Heimpel

Research Associate

(March - May 2017)

Great Basin Institute (GBI); U.S. Fish and Wildlife Service (USFWS); AmeriCorps

Linda Allison; Terry Christopher

- Completed systematic line-distance sampling of Mojave Desert Tortoise (*Gopherus agassizii*) populations across various strata in Utah, Nevada, and Arizona
- Collected health data on wild tortoises which included Body Condition Scores (BCS), nasal and discharge scores for *Mycoplasma* and chronic respiratory disease screening, along with size and sex metrics utilizing sterile field technique
- Utilizaba orientación precisa con brújula para medir distancias cortas. Utilizaba brújula, SPOT y GPS portátil para orientación a larga distancia
- Following extensive 140+ hours of training, permitted to handle IUCN vulnerable Mojave Desert Tortoises by U.S. Fish and Wildlife Service.
- Trained in 4WD operation and Wilderness First Aid (WFA)

GIS GeoPortal Technician

(June - August 2016)

Charles Darwin Foundation

- Aided in the development of a digital portal for the presentation and distribution of maps and geographical data produced primarily by Charles Darwin Foundation endeavors
- Utilized QGIS and ArcGIS to analyze layers in order to uncover their purpose, identify their sources, and create robust Metadata
- Helped maintain SQL and GeoServer based GeoData database
- Built light-weight, intuitive user guide for GeoPortal users with HTML/CSS
- Actively tested online, local WCS, WFS, and WMS distributions

Galapagos National Park Volunteer

(December 2015 - May 2016)

Galapagos National Park; Centro de Crianza de Tortugas Terrestres Jacinto Gordillo

- Chatham Island Galapagos Tortoise (*Chelonoidis chathamensis*) husbandry and monitoring of 180 semi-captive individuals which included 4 separate monitoring campaigns, collection and monitoring of eggs, care of newborns, and preparation of a cohort for repatriation
- Shared duties with Park Rangers to directly manage teams of volunteers and execute ongoing invasive plant eradication efforts focusing on *Lantana camara*
- Data entry and creation of needed breeding center signage
- Reinvigorated native/endemic nursery through seed and seedling collection, propagation, avid nursery care, and preparation of four hectares for native landscaping

Assistant Scientist; Researcher II

(September 2012 - September 2015)

Masonic Cancer Research Center, UMN Medical School Department of Pediatrics, Division of Bone Marrow Transplantation

Dr. Bruce Blazar; Dr. Keli Hippen

- Self-directed design, implementation, analysis, and presentation of complete experiments focused on human umbilical cord derived naive human regulatory T cells (Tregs) as a potential cellular therapy for pediatric Graft-Versus-Host Disease (GVHD)
- As a specific role, devised and optimized cutting-edge lentiviral program, a novel direction for our lab that has continued to this day
- Managed internal and external collaborations, was appointed lab secretary, and co-advised undergraduate staff acting as Undergraduate Directed Research Mentor
- Completed assays and composed novel protocols surrounding FACs Aria II flow cytometry sorting, AutoMACs and drip bead purification, Ca²⁺ mobilization assay, subsetting, CFSE, lentiviral p24 ELISA titrations, plasmid Maxiprep and gel electrophoresis, along with Ficollpaque blood separation strictly following GMP regulations
- Maintained human cell cultures utilizing techniques involving drug preparation, sterile technique, microscopy, freeze/thaw protocols, flow cytometry, FlowJo and FACSDiva strategies, and Excel and PRISM statistical analyses
- Supervised a team of 2 to manage our harem breeding program and implemented murine model experiments through IV and IP injections, facial vein bleed, clinical scoring, histology, and Xenogen IVIS lentiviral BLI following strict IACUC best practices
- Specially trained in bloodborne pathogen, hazardous waste, chemical, and radiation safety

Undergraduate Research Assistant, Summer Field Manager

(August 2011 - August 2012)

UMN Department of Horticultural Sciences; Urban Forestry Outreach, Research, and Extension (UFore) (FKA Teaching, Research and Extension (TRE) Nursery)

Chad P. Giblin, M.S; Dr. Jeff Gillman

- Prepared and maintained cuttings, seedlings, young trees, and nursery stock
- Trained in plant propagation, agricultural, and pruning techniques
- Worked directly with mycology researchers in ongoing studies of Dutch elm disease
- Worked with City of Saint Paul Parks and Recreation foresters on urban case studies
- Personally managed 8 acres of field plots of collaborative peanut (*Arachis hypogaea*) plot
- Maintained and updated the research blog on behalf of our lab (www.trees.umn.edu)

Human Physiology Teaching Assistant

(August-December 2011)

University of Minnesota Department of Physiology

Dr. Lisa Anderson; Dr. Keirstead; Dr. Barnett

- Worked as a team with professors and other TAs to implement curriculum
- Met one-on-one with professor weekly regarding lesson plans
- Corrected coursework, led labs, and answered questions for undergraduate students
- Self-implemented and guided additional study sessions for students before large exams

Undergraduate Laboratory Assistant

(September 2009 - August 2010)

Masonic Cancer Research Center, UMN Medical School Department of Pediatrics; Division of Bone Marrow Transplantation

Dr. Bruce Blazar; Dr. Keli Hippen

- Focused on histology which included murine tissue collection, preparation, microscope analysis, photography, and presentation
- Husbandry of mouse colony
- Trained and organized schedules for undergraduate assistants
- Specially trained in blood-borne pathogen, hazardous waste, chemical, and radiation safety

Selected Volunteership -

Spanish Interpreter

(March 2020 - August 2021)

Alight (FKA American Refugee Committee)

Annie Nolte-Henning

- Acted as a real-time, simultaneous interpreter from English to Spanish for a 2-hour public Zoom event
- Served as a video call interpreter for medical practitioners in providing current COVID-19 prevention/response information to Spanish speaking organizers of migrant, refugee, and asylee shelters across four Latin American countries.
- Contracted under USAID-funded grant to provide interpretation for the design and planning of projects to improve these shelters and expand their services.

Minnesota Herpetology Intern

(April - August 2015)

In collaboration with Minnesota Herpetological Society; Minnesota Department of Natural Resources; Dakota County Natural Resources Management; Three Rivers Park District

- Self-designed an independent internship program to gain field herpetology experience
- Monitored potential nesting sites for endangered Blanding's Turtles (*Emydoidea blandingii*) at Murphy-Hanrehan Park Reserve for the Three Rivers Park District.
- Roles included aiding turtles cross roads in place of wildlife corridors, documenting markings, collecting geospatial data, checking radio transmitters, and relocating eggs to safer areas to establish novel philopatric breeding sites in protected areas
- Participated in a Timber Rattlesnake (*Crotalus horridus*) field survey for the Minnesota Department of Resources at Beaver Creek Park in Southeastern Minnesota

Animal Care Crew (ACC) Member

(November 2014 - August 2015)

Wildlife Rehabilitation Clinic (WRC) of Minnesota

- Completed the feeding, enclosure maintenance, and basic care of up to 160 species of birds, waterfowl, reptiles, amphibians, and mammals
- Completed specialized training, followed strict White-nose Syndrome quarantine protocols, and received pre-exposure rabies series/vaccine to complete Little Brown Bats (*Myotis lucifugus*) and Big Brown Bats (*Eptesicus fuscus*) husbandry
- Worked with a team of ACC members, veterinarians, and veterinary technicians to complete all necessary animal husbandry tasks
- Trained in techniques to eliminate domestication
- Utilized direct animal handling skills in wildlife field repatriations offsite

Medical Volunteer

(October - December 2010)

El Centro de Atención Médica Integral de la Universidad de Los Andes (CAMIULA)

Dra. Rosario Gonzales

- Self-initiated a medical volunteer opportunity in Venezuela
- Served as volunteer medical aide assisting doctors with tasks such as administering IVs, maintaining/removing sutures, care of wounds, analysis of X-rays, and diagnosis
- Shadowed basic medical examinations

Scientific Mentorship -

- **Ecology and Biodiversity TA; USC.** 33 Undergraduate students; 2023-present
- **USC Young Researchers Program (YRP) Mentor:** 1 high school student; 2025
- **Field Director.** 3 field assistants; 2023. 4 field assistants; 2024. 4 field assistants; 2025.
- **Anthropology and General Biology TA; USC.** 118 Undergraduate students; 2021-2022
- **Field and laboratory supervisor; Charles Darwin Foundation.** 4 undergraduate volunteers; 2016-2019
- **Co-advisor for directed research projects; UMN Undergraduate Research Opportunities Program (UROP).** 2 undergraduate students; 2014-2015
- **Mouse colony supervisor; UMN.** 4 undergraduate interns; 2013-2015
- **Bilingual STEM tutor; El Colegio high school.** Bilingual high school students; 2011-2012
- **Human Physiology TA; UMN.** Undergraduate students; 2011

Additional Relevant Skills and Qualifications -

- *Applicable computational skills: R/Rstudio, Python, Git, geoinformatic analysis systems (ArcGIS Pro, ArcGIS Online, QGIS, GeoServer), Linux, HTML, CSS, Gimp, Inkscape, NetLogo, bioinformatic analysis software (e.g. BLAST, BLAT, MULTIALIGN), Microsoft Office (Excel, Word, PowerPoint), CN3D, SPOT, ImageJ, and FlowJo. See: <https://github.com/CharlesLehnen/>*
- *Languages:*
 - *English: Fluency (native)*
 - *Spanish: Fluency (non-native), high professional proficiency*
 - *French and Polish: Basic proficiency*

Selected Honors -

Lewis and Clark Fund for Exploration and Field Research Scholarship (2024)

Fulbright Fellowship Alternate (2024)

Gold Family Fellowship (2024)

USC Graduate School Travel/Research Award (2024)

Iguanas in the Balance Grant (2024)

USC Joint Educational Project (JEP) STEM Fellow (2023)

Chelonian Research Foundation (CRF) Congdon & Dickson Research Fund (CDRF) (2023)

USC Dornsife Outstanding TA Award (2023)

USC Wrigley Institute Graduate Fellowship (2023)

USC External Fellowship Bootcamp Award (2022)

Dornsife PhD Academy Scholarship (2022)

USC Provost Fellowship (2021-2026)

The Saint Paul Festival & Heritage Foundation Ambassadors Scholarship (2021)
UMN Tony Diggs Excellence Award - Outstanding Student & Community Relations (2013)
UMN undergraduate honors program (2008-2012)
UMN College of Biological Sciences (CBS) "Dean's Scholars" program graduate (2008-2012)
UMN undergraduate Dean's List scholar (2008-2010)
The Degree of Honor Foundation Salute to Youth award (2008)
Minnesota Postsecondary Enrollment Options (PSEO) scholar (2007-2008)
Boy Scouts of America Eagle Scout Award (2008)
Minnesota High School League (MSHSL) ExCEL award (2007)

Presentations -

- 2025 **Charles Lehnen***, Dr. Craig Stanford, Dr. Washington Tapia. Machine Learning Classification of Camera Trap Imagery Reveals Selective Foraging on Plant Parts with Implications for Plant Reproduction and Landscape Heterogeneity. **2025 Annual Meeting of the Ecological Society of America**. Oral presentation. <https://events.rdmobile.com/Lists/Details/2996841>
- 2025 **Charles Lehnen***, Dr. Craig Stanford, Dr. Washington Tapia. Assessing Española Giant Tortoise introduction impact on Santa Fe Island with remote sensing and behavioral models. **Turtle Survival Alliance 23rd Annual Symposium**. Oral presentation. https://issuu.com/turtlesurvivalalliance/docs/23rd_annual_symposium_program
- 2024 **Charles Lehnen***, Dr. Craig Stanford, Dr. Washington Tapia, Mariella Jorge. Assessing Española Giant Tortoise introduction impact on Santa Fe Island with remote sensing and behavioral models. **2024 Annual Meeting of the Ecological Society of America**. Oral presentation. <https://events.rdmobile.com/Lists/Details/2449201>
- 2023 **Charles Lehnen***, Andrea Morfin Valencia. Ecology and Galapagos Tortoises. Giant Tortoises: The Newest Neighbors on Santa Fe Island. **Joint Educational Project (JEP) 2023 Seminar Series; JEP and University of Southern California (USC)**. Oral presentation.
- 2021 **Charles Lehnen***, George Heimpel, Bradley Sinclair, Charlotte Causton. Rearing sources of endemic and native Galapagos Diptera for non-target testing of *P. downsi* control agents. **International Workshop: Searching for solutions for the control of the Avian Vampire Fly, *Philornis downsi*, and the conservation of Galapagos landbirds; CDF and GNP**. Oral presentation.
- 2018 **Charles Lehnen***, Paola Lahuatte, Bradley Sinclair, Charlotte Causton, George Heimpel. Estudio Exploratorio de la Historia Natural de los Dípteros (moscas) de Galápagos. **Agencia de Regulación y Control de la Bioseguridad y Cuarentena (ABG) para Galápagos**. Santa Cruz, Galapagos, Ecuador. Oral presentation.
- 2018 **Charles Lehnen***, Paola Lahuatte, Bradley Sinclair, Charlotte Causton, George Heimpel. Estudio

Exploratorio de la Historia Natural de los Dípteros (moscas) de Galápagos. **Isabela Island Galapagos National Park (GNP; DPNG)**. Isabela, Galapagos, Ecuador. *Oral presentation.*

2013 **Charles Lehnen*** Beta-catenin stabilization to extend nTreg IL-2 dependent survival. **4th Annual Masonic Cancer Center Research Symposium; UMN**. Minneapolis, MN, USA. *Poster.*

Invited Presentations -

2025 **Charles Lehnen***, *Dr. Craig Stanford, Dr. Washington Tapia*. Assessing Española Giant Tortoise introduction impact on Santa Fe Island with remote sensing and behavioral models. **Turtle Conservancy**. Ojai, California. *Oral presentation.*

2018 **Charles Lehnen***, *Paola Lahuatte, Bradley Sinclair, Charlotte Causton, George Heimpel*. Estudio Exploratorio de la Historia Natural de los Dípteros (moscas) de Galápagos. **Bi-Monthly Seminar Series; Charles Darwin Foundation (CDF)**. Santa Cruz, Galapagos, Ecuador. *Oral presentation.*

2018 **Charles Lehnen***, *Bradley Sinclair, Charlotte Causton, George Heimpel*. Ecología de los Dípteros de Galápagos: Estudio Exploratorio de la Historia Natural. **Invertebrates Department Lunch Seminar; CDF**. Santa Cruz, Galapagos, Ecuador. *Oral presentation.*

2018 **Charles Lehnen***, *Bradley Sinclair, Charlotte Causton, George Heimpel*. Natural History of Galapagos Flies: An Exploratory Study. **Monthly Presentation Series; St. Paul Optimist Club of Optimists International**. St. Paul, MN, USA. *Oral presentation.*

2016 **Charles Lehnen***, *Bradley Sinclair, Charlotte Causton, George Heimpel*. Biological Control of *Philornis downsi*. **CDF Weekly Presentation Series (August); National Geographic & Lindblad Expeditions**. Santa Cruz, Galapagos, Ecuador. *Oral presentation.*

2016 **Charles Lehnen***, *Bradley Sinclair, Charlotte Causton, George Heimpel*. Biological Control of *Philornis downsi*. **CDF Weekly Presentation Series (July); National Geographic & Lindblad Expeditions**. Santa Cruz, Galapagos, Ecuador. *Oral presentation.*

2015 **BIOL 1806 Career Panel; University of Minnesota (UMN) College of Biological Sciences (CBS) Nature of Life**. Minneapolis, MN, USA. *Alumni panel.*

2014 **BioBound 2014; UMN CBS Student Board & the Biological Sciences Alumni Society**. Minneapolis, MN, USA. *Alumni panel.*

2014 **Common Time Career Panel; UMN CBS Alumni Relations and Development**. Minneapolis, MN, USA. *Alumni panel.*

2014 **CBS Freshmen Career Panel; UMN CBS Alumni Relations and Development**. Minneapolis,

MN, USA. *Alumni panel.*

2012 **Charles Lehnen**.* Venezuela: Fall 2010. **Reflections from Abroad; UMN College of Biological Sciences (CBS).** Minneapolis, MN, USA. *Poster.*

Contributed Presentations -

2025 *Mikaylie Wilson**, **Charles Lehnen**. Ecological monitoring on Santa Fe Island, Galapagos. **WReNNZ National Wildlife Conference.** Auckland, New Zealand. *Oral presentation.*

2025 *Alison Garcia**, *Phil Kong*, **Charles Lehnen**. Introduced Ecological Proxies Impact Endemic Santa Fé Iguanas. 2025 USC Young Researchers Program Symposium. Los Angeles, CA *Poster presentation.*

2023 *Yan Yin Cheung**, *Brian V. Brown*, *Vaughn Shirey*, *Teagan Baiotto*, *Austin Baker*, **Charles Lehnen**, *Jayme Lewthwaite*, *James Willoughby*, *Laura Melissa Guzman*. BioSCAN Survey Reveals Seasonal Trends of Insect Communities Across the Los Angeles Metropolitan Area. **Southern California Academy of Sciences 2023 Annual Meeting.** Newport Beach, CA. *Poster presentation.*

2020 *Charlotte E. Causton**, *George E. Heimpel*, *Mariana Bulgarella*, *Ismael Ramirez*, *Rebecca Boulton*, *Gabriel Brito*, **Charles Lehnen**, *Denis Mosquera*, *Christian Sevilla*. ¿El Control Biológico, una Herramienta para el Manejo de la Mosca Parasítica Invasora *Philornis downsi* en las Islas Galápagos? Avances y Próximos Pasos. **2do Congreso de Control Biológico Aplicado; Congreso de Control Biológico Aplicado.** Bogotá, Colombia. *Invited keynote presentation.*

2020 *George E. Heimpel**, *Charlotte E. Causton*, *Ismael E. Ramirez*, *Mariana Bulgarella*, *Rebecca A. Boulton*, **Charles C. Lehnen**, *Pamela Rueda-Cediel*. The prospect of using parasitoid releases against the invasive bird parasitic fly, *Philornis downsi* (Diptera: Muscidae) in the Galapagos Islands. **Entomology 2020: Virtual Annual Meeting; Entomological Society of America** Annapolis, MD, USA. *Invited presentation.*

Publications -

Guzman, Melissa; Charles Lehnen; Teagan Baiotto. 2024 "Bugs thrive in urban Los Angeles – volunteers' traps reveal biodiversity hot spots for city insects and spiders" Associated Press (*Republished by 13 outlets*)

Lehnen, Charles; Craig Stanford; Washington Tapia. 2024. "Assessing Española Giant Tortoise (*Chelonoidis hoodensis*) Introduction Impact on Santa Fe Island With Remote Sensing and Behavioral Models." 22nd Annual Symposium on the Conservation and Biology of

Tortoises and Freshwater Turtles; Turtle Survival Alliance (TSA), Conference program abstract.

Lewthwaite, Jayme; Teagan Baiotto; Brian Brown; Yan Yin Cheung; Austin Baker, Charles Lehnen, Terrence McGlynn. 2024. "Drivers of arthropod biodiversity in an urban ecosystem." *Scientific Reports* 14, no. 1: 390.

Lehnen, Charles, Bradley Sinclair, Alejandro Miele, Rebecca Boulton, Paola Lahuatte, Charlotte Causton, George E. Heimpel "Diversity of dipteran substrate use in the Galapagos Islands with implications for biological control of the invasive avian vampire fly" *in preparation*

Hippen, Keli L., Benjamin Watkins, Victor Tkachev, Amanda M. Lemire, Charles Lehnen, Megan J. Riddle, Karnail Singh et al. 2016 "Preclinical Testing of Antihuman CD28 Fab' Antibody in a Novel Nonhuman Primate Small Animal Rodent Model of Xenogenic Graft-Versus-Host Disease." *Transplantation*, 100(12), p.2630.

Lehnen, Charles, David J Matthes, et al. 2012. "KIAA0922" *Wikipedia*
<https://en.wikipedia.org/wiki/KIAA0922>

Media -

"The making of a field ecologist" - University of Minnesota.
<https://twin-cities.umn.edu/news-events/making-field-ecologist>

"Dean's Scholars alumni spotlight: Charles Lehnen" - University of Minnesota College of Biological Sciences. <https://cbs.umn.edu/blog-posts/charles-lehnen>

"Tortoise Research: From USC to Galapagos" - USC Dornsife College of Letters, Arts and Sciences. <https://www.youtube.com/watch?v=fTj72QwsI0U>

"USC Wonderkids Program Videos" - USC JEP STEM Programs.
https://tinu.be/wonderkids_youtube

"Do Giant Tortoises Make Good Neighbors?" - EOS GNSS.
<https://eos-gnss.com/successes/galapagos>

"Where the Bats Go: New Research Uncovers Their Mysterious Journey" - Esri ArcNews.
<https://www.esri.com/about/newsroom/arcnews/where-the-bats-go>

"Bat Conservation International: Successes" - EOS GNSS.
<https://eos-gnss.com/successes/bat-conservation-international>

Selected GitHub Hosted Projects -

- African Megafauna Dataset from YouTube Livestreams: Designed a pipeline using computer vision (FasterRCNN_ResNet50_FPN) to capture, detect, crop, and manually classify African wildlife from livestream footage, laying groundwork for a large-scale classification dataset.
https://github.com/CharlesLehnen/YouTube_Trailcamera_Livestream_Classification_Tool
- Enhancing the California Insect Barcoding Initiative (CIBI): Built an end-to-end pipeline to predict mantis distributions, integrating climatic rasters (NetCDF), ecoregions, human population layers, GBIF biodiversity records, and county shapefiles; implemented linear regression, SVM, and decision-tree models via Colab/desktop notebooks, producing mapped predictions and CSV outputs to support barcoding of all California insect species.
https://github.com/CharlesLehnen/DSCI_550_Final_Project
- QGIS KML to DJI Pilot 2: Built a script/executable to convert QGIS-exported KML files into DJI Pilot 2-compatible formats, supporting cross-platform use (Windows/Linux/Python).
https://github.com/CharlesLehnen/QGIS_KML_to_DJI_Pilot_2
- Garmin Instinct Topo Converter: Designed a graph-theory-based workflow that transforms DEMs into GPX topographic routes for Garmin Instinct watches, overcoming the device's lack of basemap support. This workflow generates navigable elevation-aware graphs usable directly on the watch. https://github.com/CharlesLehnen/Garmin_Instinct_Topo_Converter
- Lightweight-Charts for Freqtrade: Integrated TradingView's Lightweight-Charts into Freqtrade's Docker environment to enable interactive visualization of backtests and trading strategies, surpassing the difficult to use and unattractive built-in Plotly charts.
<https://github.com/CharlesLehnen/LightweightCharts-for-Freqtrade>
- Google Drive Zip Folder Extractor: For when Google Takeout unavailable, built a Python/Windows executable tool to automatically extract and reconstruct folder hierarchies from split Google Drive zip downloads, including path sanitization and CSV-based renaming logs.
<https://github.com/CharlesLehnen/Google-Drive-Zip-Folder-Extractor>
- Zotero Better BibTeX Output to Match Google Scholar: Created a Python tool that standardizes BibTeX keys exported from Zotero's Better BibTeX plugin to match Google Scholar citation formats so both tools can be used together.
https://github.com/CharlesLehnen/Zotero_Better_BibTeX_Output_to_Match_Google_Scholar