Smithsonian

Volume 9

NHRE NEWS

REU Site, OCE-1560088

The Newsletter of the NSF REU Site: Natural History Research Experiences Summer Internship Program

Summer 2020

Directors' Corner

On the day we write this in late May, the museum has been closed to staff and visitors for over eight weeks because of the coronavirus that has spread through most of the world, leaving a terrible toll in its wake. Above all, we hope that all of you reading this are safe and well, with plans to hunker down until the worst of this passes.

Like everyone else, NHRE has had to adjust. We had just about finished assembling our NHRE cohort for 2020 when it became clear that the program would not be able to run. The difficult decision was made to cancel the program and defer our 2020 funding in order to use it to run a program instead in 2021. The interns we accepted this spring were encouraged to apply again next year (and receive preferential acceptance). For a few of the accepted students who will not be eligible for NHRE next year, we were able to coordinate virtual internships with their planned NHRE mentors. Cancelling NHRE for 2020 was unavoidable, but that did not lessen the disappointment and sadness we felt when we had to pull the plug.

This COVID-related uncertainty came at a time when the future of NHRE was already somewhat hazy. This summer, 2020, was supposed to be our last funded year, after which Liz and Gene were to hand over the reins to new leaders from within the NMNH community. Our successors would write a new grant proposal to kick-off a new version of NHRE, with their own ideas about how the program could innovate and improve. And, while running the NHRE has been for each of us the single most rewarding role of our professional lives, this change is coming at a good time. Every program needs an occasional reset to allow for new directions and new voices. We hope that new leaders will be identified in the coming year in time for us to all work together to run the summer 2021 program.

In the meanwhile, be smart, binge-watch what you need to, and, above all, be good to yourself as we all adjust to these strange times.

Take care,

Gene and Liz

Caption: Photograph of a mostly empty National Museum of Natural History with Blue Angels and Thunderbirds flying above in honor of those serving on the front lines of the COVID-19 pandemic. Photo credit: Tom Jorstad.

Alumni update 2010

Matthew Nielsen accepted a two year post doc at Stockholm University in July 2019. He also published an article in Ecology Letters; **Compensating for climate change–induced cue-environment mismatches: evidence for contemporary evolution of a photoperiodic reaction norm in *Colias* butterflies.**

https://onlinelibrary.wiley.com/doi/full/10.1111/ele.13515

Sunjana Supekar graduated from the UCLA School of Law in 2019 with concentrations in Environmental Law, Critical Race Studies, and Public Interest Law and Policy. She is now a licensed attorney and has been working as a legal fellow at a public interest environmental law firm on cases that advocate for greater protection of the environment and people. She also recently published a comment (i.e., law student-written article) in the UCLA Law Review entitled ***Equitable Resettlement for Climate Change–Displaced Communities in the United States***, analyzing resettlement and retreat policies for coastal communities that are threatened and displaced by climate change.

NHRE Class of 2011

Rhiannon LaVine moved to Kansas in January 2020, she will be at the University of Kansas as an IRACDA postdoctoral fellow!
This is an NIH-funded program that will allow Rhi to do research at KU and will also provide her teaching/mentoring experience at the neighboring Haskell Indian Nations University. Rhi will be teaching biology courses, but wants to give her students a deep time perspective, and she is planning on taking them out into the field.

Before moving to Kansas, Rhi married her long-time beau Brooks Zimmer on the 7th November 2019 in a ceremony in California.

NHRE Class of 2011

Submitted by Akela Kuwahara

I am excited to send the following update:
I defended my PhD thesis in the Developmental and Stem Cell Biology PhD program at UCSF in February, and officially graduated at the end of last term, in March. It was such an honor to defend my thesis in front of my mentors, classmates, friends and family!

Many experiences led me to this accomplishment, one of them being my time as an NHRE intern. The NHRE program exposed me to the joy and excitement of scientific research at the very start of my research career, and I am so grateful for that.

I am currently still living in San Francisco and am working as a scientist at Gordian Biotechnology, a therapeutics discovery company where I am enjoying expanding my genomics and experimental skillsets and contributing to advancing human health.

Submitted by Tyler Imfeld

I'm pleased to say that I, fortunately, have some good news to share with you for the NHRE newsletter. I recently had the first chapter of my dissertation accepted for publication in The Auk earlier this spring, and it should be going into print in the next month or so. I used museum specimens, including a few from the Smithsonian, for a phylogenomic study of Euphonia and Chlorophina finches that has helped resolve taxonomic conflicts and shed light on their evolutionary origins.

I've scheduled my defense date from the University of Minnesota's Ecology, Evolution and Behavior PhD program for May 28th, and I'm well ahead of schedule with full drafts of all of my chapters already done.

Most excitingly, I will be moving to Denver, Colorado this summer to start a tenure-track assistant professor position in the Department of Biology at Regis University. Regis is a small liberal arts Jesuit university, just like my alma mater, Xavier University, so teaching ecology and statistics there while continuing to do research and train undergraduates using museum collections, is going to be a dream come true!

Submitted by Dakota Rowsey

I'm very pleased to announce that I have accepted a position as vertebrate collections manager at Arizona State University's Natural History Collection! I am thrilled to have found a position that seems like it will be an excellent fit for me, including the ability to work and conduct research in a museum setting, to improve and maintain organizational infrastructure, and most importantly, move somewhere where I don't need to worry about getting snow in the middle of April. This past year has been challenging for me, and I'm sure this position will present challenges of its own, but I am optimistic in what the future holds.

NHRE Class of 2013

Graduating in the Time of Corona

Submitted by Subir Shakya

When my kids ask me about the Great Pandemic of 2020, I have the perfect answer for them, that I successfully defended my dissertation and became a Doctor of Philosophy. I had always wanted to have a memorable defense. I had arranged to defend in the Spring of 2020 back in December 2019 when reports of a new coronavirus were coming out of Wuhan, China. No one then knew what was to come so I prepared to make my defense memorable by other means. I wanted to represent my country during the defense so I had my parents send me a custom-tailored daura-suruwal, the Nepalese national dress, that I would wear for the defense. I thoroughly experimented with my presentation slides to make them visually appealing.

On February 19, 2020, four weeks after the first Covid-19 cases was recorded in the U.S., I stood in front of a large group of faculty and peers along with the hundreds who tuned in online and I started my public defense. My dissertation was titled, "Genomics and Population History of Black-Headed Bulbul (*Brachypodius atriceps*) Color Morphs," and it featured a phylogeny of the family Pycnonotidae, genomic investigation of the genes potentially responsible for the yellow and gray color morphs of the Black-headed Bulbul, and the population dynamics of the populations on various islands of this species in Southeast Asia. The public defense went well, and I successfully defended my dissertation from my committee. I was officially a Doctor, a Doctor of Philosophy. I celebrated a bit after it. Four weeks later Louisiana was at a stay-at-home order. The exaltations of getting a Ph.D. was now soured by the lamentations of physical isolation due to the coronavirus. The chaos caused by the virus threw a monkey-wrench into my process of moving from a doctorate to a postdoc. Even now I am unsure what I am doing after this. Yet I remain optimistic that eventually this virus will subside, probably fall off trying to chase a parrot out a window, and opportunities lost will come around.

Next year when I write up my update for this newsletter, I will be sharing all the great things that have happened since, so stay tuned.

Submitted by Raquel Bryant

I do have some exciting updates: I am wrapping up my dissertation and will graduate from UMass Amherst at the end of the summer. In September, I will be starting a postdoctoral fellowship at Texas A&M University in the Department of Geology & Geophysics! During my time as a graduate student I have been involved with efforts to improve diversity and inclusion on campus. My friends and I built a very successful lecture series that showcases contributions from early-career and underrepresented scientists. This spring, we published a piece about our experiences in Eos (https://eos.org/opinions/whats-in-a-seminar).

Alumni update 2013

Amy Rutter started as a first-year PhD student in the Ecology and Evolutionary Biology department at Brown University in Fall 2019 and was awarded a National Science Foundation Graduate Research Fellowship in March 2020!

In December 2019 **Jana Burke** successfully defended her thesis.

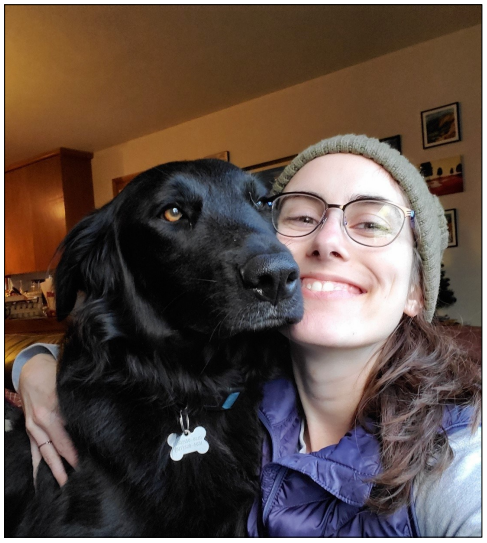
NHRE Class of 2014

Sterling Heron was recently published in **Frontiers** in Plant Science. He was an author on ***Nuclear and Chloroplast Sequences Resolve the Enigmatic Origin of the Concord Grape.*** A link to the publication is below.

10.3389/fpls.2020.00263

Submitted by Kellie Wall

This summer I am wrapping up my fifth year as a PhD student at Oregon State University and planning to defend my dissertation by next winter. My research focuses on the volcanic history of the Goat Rocks Wilderness in Washington State, where different volcanoes with a range of compositions sprouted up over a period of about 3 million years (~3 Ma to 100 ka). I'm working to determine what mantle and crustal processes controlled the changes in behavior there through time, to evaluate how an arc volcanic center evolves (is there a "life cycle" common to other arc volcanoes?) and for broader spatial and temporal resolution on the magmatic drivers of the active Cascade arc. The past handful of years feel like they have gone by so fast! I feel at the same time like I have SO much still to learn and wish I had another two to three years… yet also eager to start a new chapter.



PhD life can be a rollercoaster of excitement (Backpacking in the mountains! New data!) and frustration (Why can't I make Python work! How much longer do I have to stare down this microscope!).

My more consistent joys are my partner of 4+ years, Tommy; our dog, Doug; and my ever-expanding garden. Tommy won my heart quickly after we met on a ski trip and he challenged me to a broccoli-eating contest (ha!). As a PhD student in Nuclear Engineering, he understands my stress, but ensures I remember the "life" in work-life balance. We enjoy playing chef together and regular fun with our big furry baby. We adopted Doug last spring from a rescue organization that connects dogs from overflowing Texas shelters with PNW homes. DNA testing confirms he is a true mutt: part German Shepherd, Mastiff, Collie, and more… but 100% a good boy. He loves snuggling, running around the backyard with his favorite toy (a popped basketball… ha!), and supervising my work in the garden.

I've become more than a little obsessed with growing veggies in the past few years… turns out a green thumb can be learned after all! This year I added a third garden plot to our yard and am going to attempt corn for the first time. Every step of the process is so exciting, from the sprout's first emergence to the last grateful harvest.

Wishing all of my NHRE friends and mentors comfort and safety in this scary time. Sending hugs to you all. I think fondly of our time at the museum and our dress-up dates to fancy DC eateries… what fun it would be if we could get together again someday! I'm so grateful for that amazing summer jam-packed with learning, growth, and friendship.

NHRE Class of 2015

Submitted by Johanna Obenda

In May 2019, I completed my MA in Public Humanities at Brown University where I was a graduate fellow at the Center for the Study of Slavery and Justice. For Brown's commencement weekend, I curated an exhibition titled *Memory Dishes: Women and African Diasporic Cooking* which highlighted the culinary histories of women from six local families. After graduation, I began a fellowship at the Yale University Art Gallery. As the Cullman-Payson Fellow in Academic Affairs and Outreach, I have been researching the connections between art and empathy. I also teach a variety of university courses in the museum's galleries, with a focus on connecting non-art disciplines to the collection.

I am in the midst of wrapping up my fellowship at Yale and starting a new position at the Smithsonian National Museum of African American History and Culture. At NMAAHC, I will be working with the Center for the Study of Global Slavery as a Research and Exhibition Development Specialist. I will be providing curatorial support for several projects, including an upcoming four-continent traveling exhibition on the global history of transatlantic slavery. I'm looking forward to being back in DC again!

Submitted by Ashly Romero

I just have a couple updates. I spent my winter break this year collecting data in Puerto Rico from the Primate Morphology Lab at the Caribbean Primate Research Center. I'm investigating developmental stability in their macaque colony for my dissertation.

I also took my candidacy exams, so once I defend my dissertation proposal this summer, I'll officially be a PhD candidate! Other than that, I worked on a collaborative project that published a paper. I try to hang on as life goes barreling along!

Submitted by Wilson Guillory

I finally have some news to share since the last time I submitted an update for the newsletter. I just finished my Master's degree at SIU Carbondale with Jason Brown and I'm starting my Ph.D at Rutgers University Newark this fall with Marcelo Gehara. In the past few years I've published several papers on poison dart frog evolution and presented at several national meetings.
Also, for the gossip section - I am still dating fellow alum Isabella Muratore - thanks Smithsonian dating service!

Alumni update 2015

Morgan Rondinelli completed an AmeriCorps service term last year teaching Mental Health First Aid to communities in rural Illinois.

Not Alone Notes, her project to mail handwritten, encouraging notes to others with OCD recently mailed their 1,000th note! The project is also in the process of filing to be a 501(c)3 nonprofit.

Here is a video she made for sending the 1,000th note:

https://youtu.be/vOUZwWGyzJM

NHRE Class of 2016

Submitted by Elizabeth Reardon

I finished my two-year service in the United States Peace Corps in March. I lived in the Dominican Republic in a semi-rural town along the Haitian border from 2018-2020, where I taught in a primary school, served as co-chair for the youth environmental program in Peace Corps Dominican Republic, and experienced feeling part of a community like I had never before.

Submitted By Darien Florez

I will be entering my third year of grad school at Brown next year and by this May (May 2020) I will have obtained my Masters degree. After that, I will have approximately three more years at Brown before I obtain my PhD.

I have for the most part been working on a very quantitative project investigating volcanic deposits on the moon and how we can use them to help our understanding of lunar formation and evolution. A manuscript of this study is currently being worked on!

As the rest of my graduate career proceeds, I will be focusing on a more complicated issue involving our understanding of how magma is extracted from magma chambers. I have done a few field excursions for this project, going to places like Maine and Las Vegas which has been really fun.

Aside from that, life has been great, besides all the craziness currently going on in the world. I really hope all my fellow NHRE alumni are safe, happy, and doing well!

Alumni update 2016

Elizabeth G. Derycke recently had an article published in ZOOTAXA: **A new cryptic species of fringe-toed lizards from southwestern Arizona with a revised taxonomy of the Uma notata species complex (Squamata: Phrynosomatidae)**

https://www.biotaxa.org/Zootaxa/article/view/zootaxa.4778.1.3

NHRE Class of 2017

Submitted by Elizabeth O'Brien

In the past three years since my NHRE internship, so much has happened! I am truly grateful for the all of the amazing opportunities the Botany Department researchers and the program provided me. I am still working with Bort Edwards on data sets from the summer that we hope to publish one day.

I graduated from Villanova University in 2019 and spent this past year in the Philippines as a Fulbright Research Fellow. My project analyzed coastal mangroves (both carbon sequestration and community led management efforts, dual science and science ethics focus). Next year, I will be enrolling in the University of Michigan's Ecology and Evolutionary Biology PhD program as a National Science Foundation Graduate Research Fellow (NSF GRF).

NHRE Class of 2018

Submitted by Alec Wilken

I am very excited to announce that a new paper has come out from my work as a NHRE intern at the Museum. I was an intern in the Vertebrate Zoology Department; my mentor was Neal Woodman. We studied the lever mechanics of three genera of shrews to learn about how burrowing abilities evolved in this clade. Check it out!

https://academic.oup.com/jmammal/article/100/6/1750/5681274

Submitted by Becca Goughnour

I will be graduating from Adrian College this spring with my BS in Geology, BA in Environmental Science, and a minor in Biology. I received the Outstanding Senior in Geology award this year (which is a comical juxtaposition with the Outstanding Freshman in Biology award I received 4 years ago-- how times change).

Last year, I was able to present my NHRE research at GSA in Indianapolis in the fall, and then again at my school-wide conference in the spring. Both were extremely valuable experiences, and have helped me get over my fear of talking about my research in front of people! I'm actually really bummed that I won't be able to present my senior research this spring, but I'm glad I'll have more opportunities moving forward.

After a painstaking decision process, I finally settled on Idaho State University for graduate school; I will be starting on my MS there this summer! I'll be working with Kendra Murray to reconstruct the thermal history of the Columbia River Flood Basalts using geochemistry and thermochronology. If any of my 2018 cohorts are ever near Pocatello, hit me up!!

Submitted by Jonathan Huie

The past couple of months brought a lot of good news (amidst the global situation). I got accepted into the PhD program at GWU and will be returning to DC this fall to study the water-to-land transition in salamanders. I was also recently awarded the NSF GRFP. I have also been working pretty intimately with Kevin, Ivan, and Rayna Bell the past few months to publish a paper on my NHRE project. We are so very close and hope to submit it in the next week or so.

That is all I have for now, but I am excited to be returning to DC and working closely with the NMNH in the future.

Submitted by Maya Woolfolk

I will graduate this spring, and will join Harvard's Organismic and Evolutionary Biology PhD program in the fall. Recently, I applied for the NSF's Graduate Research Fellowship Program (which I heard about during my time in NHRE), and received an honorable mention.

Alumni update 2018

This Fall **Mason Scher** will be starting her PhD in the Department of Geosciences at Princeton University. She will be working between the Sigman and Higgins Labs.

NHRE Class of 2019

Submitted by Austin Weber

I presented my NHRE poster this past November at the annual Kentucky Academy of Science meeting and was awarded first place in the geology poster competition for undergraduates. It was really cool getting to interact with geologists from all over the state and to tell them about my experience in the NHRE program. You'll be pleased to know that everyone I talked to seemed very interested in the research that Mike and I performed.

More recently, I made the decision to accept admission into a Master's program in Earth Science at The Ohio State University. Additionally, as of this morning, I have been awarded a University Fellowship that will fund my first year as a graduate student, which is really exciting news. As for research, I will be working with Dr. Lonnie Thompson at the Byrd Polar and Climate Research Center analyzing ice cores from tropical glaciers. This should be a fantastic opportunity for me because the Byrd Center is one of the best-known paleoclimatology labs in the country and because Dr. Thompson is a National Medal of Science recipient.

Submitted by Maya Samuels- Fair

I'm finishing up senior year at home in Alabama. I was potentially going to come back and work with Gene this summer, but now of course I'll be helping out remotely.

Now, for the exciting news - next year I'll be starting my PhD in Seth Finnegan's lab at UC Berkeley! And thanks to all of Gene's help, I got an NSF GRFP fellowship! But I think the best thing I have to report is that all the 2019 NHRE interns still talk every week (I hear from my old roommates more like every day!).

Submitted by Madeleine Becker

I graduated from University of Southern California in December. Since then, I've presented my NHRE research at the Ocean Sciences Meeting in San Diego, where I saw some familiar faces! Kelly and I were both accepted to the meeting's Association for the Sciences of Limnology and Oceanography Multicultural Program (thanks to nominations from NHRE) and we presented our posters a couple of feet from each other. Then, Ciara and Kelly visited us too for a mini NHRE reunion! We may or may not have all slept in the same bed!

In other news, I loved being at the Smithsonian so much last summer that I'm returning for grad school! This fall, I'll be pursuing a PhD in Biosciences: Biocomplexity and Evolutionary Biology at George Mason University and the Smithsonian Conservation Biology Institute's Center for Conservation Genomics at the National Zoo. I'll be doing something with mammalian conservation genetics research, but exact project to be determined."

From left to right: Madeleine, Kelly and Ciara

Submitted by Samantha McComb

This past September, I presented my research from the NHRE program as an oral presentation at the annual Geological Society of America meeting in Phoenix, AZ. It was both terrifying and extremely rewarding.

This research project has some more data analysis that needs to be done, but soon it will be heading in the manuscript direction (fingers crossed!). My undergraduate research (Madison Group carbonates: understanding changes in carbon isotopes, depositional environment, and sea level change) will start the manuscript phase over the summer. I am super excited to see how both papers will turn out!

I was told that undergrad will go by in a snap, and that is exactly what happened. I will be graduating from SUNY Potsdam in May 2020 with my Bachelors of Science in Geology, minor in GIS, and concentrations in general and advanced honors.

The NHRE internship helped me narrow down what areas of geology that interest me the most. To quote my mentor Dr. Brian Huber, "I drank the foram Koolade." This upcoming fall I will be attending University of Massachusetts Amherst as part of their MS/PhD program in Geoscience. I will either be working on a micropaleontology project with foraminifera from Antarctica or Colorado and New Mexico. I am also very grateful to have been a recipient of two fellowships, the Spaulding-Smith fellowship at UMass and an NSF graduate Research fellowship.

Submitted by Zahra Domin

After NHRE, I returned to finish my senior year and I am expected to graduate this May with a degree in Biology and another in Chemistry (and a Physics minor, if that counts haha). I am currently still working with my NHRE mentors and co-intern (Noah Olson) on writing publishable papers of the research we conducted over the summer as well as presentations of this research to (hopefully) present at Botany 2020 and/or the Pteridophyte Symposium.

In addition to continuing my work with the Smithsonian, I have recently accepted an ORISE research fellowship with the FDA. I have been notified that I am to start my training in Silver Spring, MD July 27. However, I have yet to receive the official offer from ORAU, so I'm not considering it a set deal/plan as of yet.

I hope this information helps putting together an NSF extension so that others like me can gain some of the incredible experiences the NHRE program has to offer. It was really life changing for me-- both personally and academically.

Submitted by Marissa Sandoval

From left to right: Bernardo Santos, Marissa, and Seán Brady

I presented my NHRE research in November 2019 at the annual Entomological Society meeting and won the "Best Undergraduate Student Presentation, Systematics, Evolution, and Biodiversity Section! The conference was packed with so many great talks, posters, and neat scientists. Claire Boschert was there and we had a blast; thankfully, the weather treated us kindly.

While in St. Louis, I also had the chance to metro over to Maya Samuel-Fair to catch up and give a run-through of the talk the day before. I've attached some photos of our NHRE meetup. Sterling Heron and Allan Cabrero (NHRE 2014) I knew Sterling from when I worked at the Missouri Botanical Garden, and Allan was my TA in entomology & is in the lab I work in. We all went out for lunch to catch up!

Such a small world. Sterling got married this past year, and Allan went to Africa with Torsten not too long ago for his PhD work on Bee Flies.

From left to right: Allan Cabrero, Marissa, and Sterling Heron

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Submitted by Regina Fairbanks

Now that this year's NHRE is sadly cancelled, I'm extra grateful that I was able to participate in the program last year. The other interns are all amazing people (and surely lifelong friends) and we've been in touch frequently since the summer.

Since returning to Penn after my summer at the Smithsonian, I've continued my research investigating the epigenetic regulation and genetic consequences of diapause in *Drosophila melanogaster*. I've also started a project in CAAM at the Penn Museum analyzing 5000 year old plant remains from an archaeological site in Israel to understand past agricultural, storage, and culinary practices.

In March I was named a 2020 Goldwater Scholar. I also co-organized a very successful "Edit-a-thon" to improve visibility of notable women associated with the Penn Museum including curators, art historians, and donors for Women's History Month. Only ~18% of biographies on Wikipedia are of women, so efforts like these are critical in improving the representation of important women, including curators and scientists.

Alumni update 2019

Submitted by Srishti Sadhir

After a month of interviews and multiple graduate program offers, I am thrilled to announce my plans for Fall 2020. I will begin my PhD in Evolutionary Anthropology at Duke University, with a research focus in human and nonhuman primate energetics, metabolism, and evolutionary biology! In completing my graduate school applications, I found myself reflecting on many moments in my childhood that shaped my interest in the natural world. I was fortunate to receive encouragement from my family and friends to pursue something so different from what they know. Thank you to everyone who has supported my goals - I could not have made it this far in my academic career without you all! I am beyond excited to see what the future holds!

Submitted by Hoano Rosario

I just graduated with a double major (both B.S.) in Environmental Science and Environmental Studies from Chaminade University.

I also recently got hired as an Environmental Technician and I am having a lot of fun with that. The company that I am working for is called ENPRO Environmental!

NHRE Cohorts: Left to right. Jack Boyette, Hoano Rosario, Austin Weber, and Paul Machabee

NHRE Publications

Anzaldo, S. S., J. Dombroskie, and J. W. Brown. 2014. Morphological Variation, Taxonomic Distribution, and Phylogenetic Significance of Cornuti in Tortricinae (Lepidoptera: Tortricidae). Proceedings of the Entomological Society of Washington 116(1):1-31.

Blaimer, B. B., M. W. Lloyd, W. X. Guillory, and S. G. Brady. 2016. Sequence Capture and Phylogenetic Utility of Genomic Ultraconserved Elements Obtained from Pinned Insect Specimens. Plos One 11(8).

Castillo, S., and T. Dikow. 2017. Taxonomic revision of *Plyomydas* Wilcox & Papavero, 1971 with the description of two new species and its transfer to Mydinae (Insecta: Diptera: Mydidae). Revista Brasileira de Entomologia in press.

Davis, F. A., E. Cottrell, S. K. Birner, J. M. Warren, and O. G. Lopez. 2017. Revisiting the electron microprobe method of spinel-olivine-orthopyroxene oxybarometry applied to spinel peridotites. American Mineralogist 102(1-2):421-435.

Gutierrez, E. E., J. E. Maldonado, A. Radosavljevic, J. Molinari, B. D. Patterson, J. M. Martinez, A. R. Rutter, M. T. R. Hawkins, F. J. Garcia, and K. M. Helgen. 2015. The Taxonomic Status of *Mazama bricenii* and the Significance of the Tachira Depression for Mammalian Endemism in the Cordillera de Merida, Venezuela. PLoS ONE 10 (6).

He, K., N. Woodman, S. Boaglio, M. Roberts, S. Supekar, and J. E. Maldonado. 2015. Molecular Phylogeny Supports Repeated Adaptation to Burrowing within Small-Eared Shrews Genus of Cryptotis (Eulipotyphla, Soricidae). Plos One 10(10).

Lewis, C., B. Bentlage, A. Yanagihara, W. Gillan, J. Van Blerk, D. P. Keil, A. E. Bely, and A. G. Collins. 2013. Redescription of *Alatina alata* (Reynaud, 1830) (Cnidaria: Cubozoa) from Bonaire, Dutch Caribbean. Zootaxa 3737 (4):473-487.

Miller, J. H., A. K. Behrensmeyer, A. Du, S. K. Lyons, D. Patterson, A. Toth, A. Villasenor, E. Kanga, and D. Reed. 2014. Ecological fidelity of functional traits based on species presence-absence in a modern mammalian bone assemblage (Amboseli, Kenya). Paleobiology 40(4):560-583.

Monsalve, S., J. J. Dombroskie, W. H. Y. Lam, J. Rota, and J. W. Brown. 2011. Variation in the Female Frenulum in Tortricidae (Lepidoptera). Part 3. Tortricinae. Proceedings of the Entomological Society of Washington 113 (3):335-370.

Nielsen, M., and M. Buffington. 2011. Redescription of *Stentorceps* Quinlan, 1984 (Hymenoptera: Figitidae), with a description of five new species. African Entomology 19(3):597-613.

Ravin, I. S., and S. W. Lingafelter. 2015. Review of the genus Urgleptes Dillon (1956) of Hispaniola (Coleoptera, Cerambycidae, Acanthocinini): descriptions of five new species and one new synonymy. ZooKeys (532):55-85.

Romero, A. N., M. Herlin, M. Finnilä, M. Korkalainen, H. Håkansson, M. Viluksela, and S. B. Sholts. 2017. Skeletal and dental effects on rats following in utero/lactational exposure to the non-dioxin-like polychlorinated biphenyl PCB 180. PLOS ONE 12(9):e0185241.

Stull, G. W., W. A. DiMichele, H. J. Falcon-Lang, W. J. Nelson, and S. Elrick. 2012. Palaeoecology of *Macroneuropteris scheuchzeri*, and its implications for resolving the paradox of 'xeromorphic' plants in Pennsylvanian wetlands. Palaeogeography Palaeoclimatology Palaeoecology 331:162-176.

Stull, G. W., C. C. Labandeira, W. A. Dimichele, and D. S. Chaney. 2013. The "Seeds" on *Padgettia readi* Are Insect Galls: Reassignment of the Plant to *Odontopteris*, the Gall to *Ovofoligallites* N. Gen., and the Evolutionary Implications Thereof. Journal of Paleontology 87(2):217-231.

Tóth, A., S. K. Lyons, and A. K. Behrensmeyer. 2014. A Century of Change in Kenya's Mammal Communities: Increased Richness and Decreased Uniqueness in Six Protected Areas. PLoS ONE 9(4).

Tóth, A., S. K. Lyons, and A. K. Behrensmeyer. 2014. Mammals of Kenya's protected areas from 1888 to 2013. Ecological Archives:E095-E150.

Woodman, N., and S. A. Gaffney. 2014. Can They Dig It? Functional Morphology and Semifossoriality Among Small-Eared Shrews, Genus *Cryptotis* (Mammalia, Soricidae). Journal of Morphology 275(7):745-759.

Woodman, N., and F. A. Stabile. 2015. Functional Skeletal Morphology and Its Implications for Locomotory Behavior Among Three Genera of Myosoricine Shrews (Mammalia: Eulipotyphla: Soricidae). Journal of Morphology 276(5):550-563.

Woodman, N., and F. A. Stabile. 2015. Variation in the myosoricine hand skeleton and its implications for locomotory behavior (Eulipotyphla: Soricidae). Journal of Mammalogy 96(1):159-171.

Markee, A., and T. Dikow. 2018. Taxonomic revision of the assassin-fly genus *Microphontes* Londt, 1994 (Insecta, Diptera, Asilidae). African Invertebrates 59(2):195-237.

NHRE Presentations

Rowsey, D.; Helgen, K. 2012. Species boundaries of brushtail possums. Annual Meeting of the Gilbert Ichthyological Society (Oral presentation).

Toth, A.B.; Behrensmeyer, A.K.; Lyons S.K. 2012. Increased diversity and decreased uniqueness in Kenyan mammal communities over the past century. Ecological Society of America Annual Meeting (Oral presentation).

Deczynski, A; Chamorro, M L; Konstantinov, A S. 2011. Morphology of the head and associated structures in New World Cryptocephalini (Coleoptera: Chrysomelidae: Cryptocephalinae). Entomological Society of America Annual Meeting (Poster presentation).

Corrigan, C. M.; Cohen, B. A.; Hodges, K.; Lunning, N. G.; Bullock E. S. . 2012. 3.9 Billion Years Ago and the Asteroid Belt: Impact Melts in Ordinary Chondrites. 43rd Lunar and Planetary Science Conference (Poster presentation).

Lavine, R. J., Wagner, P. J.; Erwin, D. H. 2011. A phylogenetic dissection of the gastropod subfamily Knightitinae across the Permian-Triassic boundary. Geological Society of America Annual Meeting (Oral presentation).

Kuwahara, A; Meyer, C; Collins, A. 2013. Assessing Autonomous Reef Monitoring Structures (ARMS) as Biodiversity Monitors. Society for Integrative and Comparative Biology Annual Meeting (Oral presentation).

Lopez, O; Cottrell, E; Warren, J. 2012. Upper mantle oxygen fugacity in ridge and subduction zone settings recorded by spinel peridotite. Fall Meeting of the American Geophysical Union (Poster presentation).

Goots, Alexis; Bruwelheide, Kari; Owsley, Doug. 2013. Post-traumatic bone loss in Civil War soldiers. Meeting of the American Association of Physical Anthropologist (Poster presentation).

Rowsey, Dakota M; Helgen, Kristofer M. 2013. Species boundaries of brushtail possums in the Queensland wet tropics. Annual Meeting of the American Society of Mammologists (Poster presentation).

Imfeld, Tyler S; Chaput, Dominique; Santelli, Cara M. 2013. The effect of nutrients on the growth and manganese oxidation of fungi and bacteria. Ecological Society of America Annual Meeting (Poster presentation).

Atta, Calder J; LaFlamme, Marc; Sessa, Jocelyn A; Tweedt, Sarah; Erwin, Douglas H. 2012. Taphonomic biases influencing exceptionally preserved Naraoia from the Burgess Shale. Geological Society of America Annual Meeting (Poster presentation).

Jagani, Sheel; Rick, Torben; Hofman, Courtney. 2011. Ancient Oyster Fisheries of the Chesapeake Bay: Methods and Implications. Annual Meeting of the Society for American Archaeology (Poster presentation).

Burke, Janet; Behrensmeyer, Anna K; Badgley, Catherine; Barry, John; Lyons, S Kathleen. 2014. Assessing the impact of time-averaging on a Miocene vertebrate fauna from northern Pakistan. North American Paleontological Convention (Poster presentation).

Ramirez, Gabrielle; Andrews, Benjamin; Dennen, Robert. 2013. Transport and sedimentation in unconfined experimental dilute pyroclastic density currents. Fall Meeting of the American Geophysical Union (Poster presentation).

Stabile, F; Woodman, N. 2014. Functional limb morphology of African myosoricine shrews (Mammalia, Soricidae). Society for Integrative and Comparative Biology Annual Meeting (Poster presentation).

Keil, K; Osborn, K. 2014. Associations between hyperiid amphipods and gelatinous zooplankton. Society for Integrative and Comparative Biology Annual Meeting (Poster presentation).

Lavin, Luke; Bell, Joshua. 2012. Exploring the Collections and Relations of A.C. Haddon At the Smithsonian. American Anthropological Association Annual Meeting (Oral presentation).

Gil, J; Watson, W. 2014. Improving the learning experience of museum visitors: Examining different types of experience in the Genome: Unlocking Life's Code exhibit. Ocean Sciences Meeting (Poster presentation).

Kandlikar, Gauruv; Freund, Forrest; Johnson, Gabriel; Taylor, W. Carl; Zimmer, Elizabeth. 2014. Chloroplast DNA reveals uniparental plastid inheritance from Isoetes engelmannii in two allotetraploid speciation events. Botany 2014 (Poster presentation).

Zimmer, Elizabeth; Johnson, Gabriel; Nagi, Suzanne; Wollaeger, Heide; Figlar, Richard. 2014. Genetic variability in Magnolia acuminata (L.) populations in the United States. Botany 2014 (Poster presentation).

LaVine, Rhiannon J. 2014. Ecological gradient structure in the Mississippian Lodgepole Formation, southwest Montana. Geological Society of America (Poster presentation).

Alison Post. 2014. Experimental Evolution of Divergence with Gene Flow: Testing for Local Adaptation in Yeast. Society for the Study of Evolution (Poster presentation).

Tyler Imfeld. Dominique Chaput. Cara Santelli. 2013. The effect of nutrients on the growth and manganese oxidation of fungi and bacteria. 98th Meeting of Ecological Society of America (Poster presentation).

A Rutter, J Maldonado, K Helgen, E Gutiérrez. 2014. Neotropical Deer: Morphometrics and Taxonomy of the Mazama americana Species Complex
(Mammalia: Cervidae). American Society of Mammalogists 94th Annual Meeting (Poster presentation).

Boas, Caitlin. 2014. Phylogenetics within Bellerophon: breaking down a classic wastebasket taxon. GSA Annual Meeting (Poster presentation).

Cooper, G; Bell, J. 2014. Fixing Things: The Politics and Techniques of Cell Phone Repair. 2014 Annual Meeting for the Society For Applied Anthropology (Poster presentation).

Hill K. N. Bullock E. S. Corrigan C.M. McCoy T. J.. 2014. Unscrambling the History of Enstatite Chondrites. 45th Lunar & Planetary Science Conference (Poster presentation).

Katie Keil. 2013. Associations between hyperiid amphipods and gelatinous zooplankton.
. Society of Integrative & Comparative Biology (Poster presentation).

Jackson, C M; Cottrell, E; Kelley, K A. 2010. Mineral-melt partitioning of V and Sc at arcs: implications for mantle wedge oxygen fugacity. Fall Meeting of the American Geophysical Union (Poster presentation).

Wall, K; Davis, F A; Cottrell, E. 2014. Oxygen fugacity recorded by xenoliths from Pacific oceanic islands. Geological Society of America (Poster presentation).

Cohen, Christopher; Dikow, Torsten. 2014. Taxonomic revision of the robber-fly genus Leptopteromyia Williston, 1907. Annual Meeting of the Entomological Society of America (Oral presentation).

Cabrero, Alan; Dikow, Torsten. 2014. Taxonomic revision of the robber-fly genus Acronyches (Diptera: Asilidae). Annual Meeting of the Entomological Society of America (Oral presentation).

Snider, A; Knowlton, N; Al-Rshaidat, M; Leray, M. 2014. Barcoding and metabarcoding the cryptofauna of the northern Red Sea. Western Society of Naturalists (Poster presentation).

Lyons, S K; Toth, A; Behrensmeyer, A K. 2012. Changes in mammal community structure in Kenya over the last 100 years. Annual Meeting of the American Society of Mammalogists (Oral presentation).

Toth, A; Behrensmeyer, A K; Miller, J; Lyons, S K. 2013. Species richness, community dynamics, and time-averaging in recent Kenyan ecosystems. 10th North American Paleontological Convention (Oral presentation).

Marshall, B; Andrews, B J; Fauria, K. 2015. What's all the talc about? Entrainment in dilute pyroclastic density currents. American Geophysical Union Fall Meeting (Poster presentation).

Miller, H; Rogers, J D. 2015. Using agent-based modeling to examine the effects of social connectivity on resilience. Annual Meeting of the American Association of Geographers (Poster presentation).

Ehlinger, S. Q.; Wendler, J. E.; Wendler, I.; Huber , B. T.; Macleod, K. 2010. Influence of early diagenesis on foraminiferal shell chemistry and isotope signatures: Results from the Tanzania Drilling Project. Annual Meeting of the Geological Society of America (Poster presentation).

Rodriguez-Russo, C. A.; Huber , B. T.; Macleod, K. G. 2010. Subtropical Turonian stable isotope ratios from "glassy" foraminifera : No evidence for greenhouse ice sheets. Annual Meeting of the Geological Society of America (Poster presentation).

Huber, B. T.; Macleod, K. G.; Bryant, R. M.; and Dickie, M. 2014. Oxygen isotope paleotemperatures across the Cretaceous Super greenhouse at southern high latitudes (Naturaliste and Agulhas Plateau). Annual Meeting of the Geological Society of America (Oral presentation).

Wall, K; Cottrell, E. 2014. Oxygen fugacity recorded by xenoliths from Pacific oceanic islands. Fall Meeting of the American Geophysical Union (Poster presentation).

Cottrell, E; Davis, F; Birner S K; Warren, J M; Wall, K. 2014. Oxybarometry of peridotites from various tectonic settings. Annual Meeting of the Geological Society of America (Oral presentation).

Birner, S.K.; Warren, J.M.; Cottrell, E.; Lopez, O.G.; Davis, F.A.; Falloon, T.J. 2014. Oxygen Fugacity Variations Among Tonga Trench Forearc Peridotites. Goldschmidt Geochemical Conference (Oral presentation).

Birner, S.K.; Warren, J.M.; Cottrell, E.; Lopez, O.G.; Davis, F.A.; Falloon, T.J. 2013. Variations in Oxygen Fugacity among Forearc Peridotites from the Tonga Trench. Fall Meeting of the American Geophysical Union (Oral presentation).

Herron, S; Wen, J; Zimmer, E. 2015. Nuclear and Chloroplast Sequences Resolve the Concord Grape Mystery. Botany 2015 (Poster presentation).

Rosenfeld, C; Kenyon, J; Santelli, C. 2014. Environmental selenium transformations: Distinguishing abiotic and biotic factors influencing Se redox transformations. Fall Meeting of the American Geophysical Union (Oral presentation).

Kenyon, J; Rosenfeld, C; Santelli, C. 2015. Investigating the effects of Se on fungal growth and biomineral production. Goldschmidt Conference (Poster presentation).

Fernandez, A; Hunt, D. 2015. Sex determination from the human sacrum: A re-assessment. Annual Meeting of the American Association of Physical Anthropologists (Poster presentation).

Lu, Shaina; Chesser, R. Terry. 2015. Patterns of genetic variation in the Australian Grey Fantail complex: Rhipidura albiscapa and Rhipidura phasiana. Evolution 2015 (Poster presentation).

Kralick, Alexandra E; Tocheri, Matthew W. 2014. A 3D quantitative comparative analysis of wrist morphology among western and eastern gorillas. Annual Meeting of the American Association of Physical Anthropologists (Poster presentation).

Sherwood, Kate D; Owsley, Douglas W; Bruwelheide, Kari S; Rouse, Stephen L; Hurlbert, Donald E. 2015. Basketmakers revealed: Physical, CT, and 3D analyses of mummified human remains from the southwest. American Association of Physical Anthropologists (Poster presentation).

Kate Sherwood. 2015. Basketmakers Revealed. American Association of Physical Anthropologist (Poster presentation).

Romero, Ashly; Sholts, Sabrina; Hakansson, Helen; Vilukela, Matti. 2016. Craniofacial and dental effects shown in rats following in utero/lactational exposure to 2,2',3,4,4',5,5'-heptachlorobiphenyl (PCB-180). Annual Meeting of the American Association of Physical Anthropologists (Poster presentation).

Schwartz LC; Gonzalez VL; Goetz FE; Maslakova SA; Wirshing HH; Norenburg JL. 2016. Carcinonemertidae: ribbon worms in search of their family history. SICB Annual Meeting 2016 (Poster presentation).

Cunningham, Andreana; Hunt, David R; Coolidge, Rhonda H. 2016. Biocultural evidence through taphonomic observations in the Karluk Salmon Cannery Chinese of Kodiak Island, Alaska. Annual Meeting of the American Association of Physical Anthropologists (Poster presentation).

Galezo, Allison. 2016. Morphometrics of the dolphin genus Lagenorhynchus: deciphering a contested phylogeny. Southeast & Mid-Atlantic Marine Mammal Symposium (Poster presentation).

Kaufman, SV; Corrigan, CC; McCoy, TJ; Bullock, ES. 2016. Mineral Associations in Enstatite Chondrites: Possible Insights into Minerals on Mercury. 47th Lunar and Planetary Science Conference (Poster presentation).

Obenda, Johann; Pobiner, Briana; Potts, Richard. 2016. The effect of context on visitor responses to the question "What does it mean to be human?". Annual Meeting of the American Association of Physical Anthropologists (Poster presentation).

Said, Meena; Birner, Suzanne; Cottrell, Elizabeth. 2015. Oxygen Fugacity of Abyssal Peridotites Along the Gakkel Ridge. Fall Meeting of the American Geophysical Union (Poster presentation).

Plaza-Torres, Stephanie; Wagner, Peter J; Darroch, Simon A F. 2015. A phylogenetic analysis of the brachipod genus Leptaena. Geological Society of America Annual Meeting (Poster presentation).

Winters, Noah P; Kula, Abigail A R; Kula, Robert R. 2015. Tall grass, small wasps: Measuring the biodiversity of braconid wasps (Hymenoptera: Ichneumonoidea) in two warm season grasslands.. Entomology 2015 (Oral presentation).

Rondinelli, M; Droege, S; Kula, Abigail A R; Smith, David R; Kula, Robert R. 2015. Is pan trapping an effective method for estimating hymenopteran diversity in grasslands?. Entomology 2015 (Poster presentation).

Said, M; Birner, S K; Cottrell, E. 2015. Oxygen fugacity of abyssal peridotites along the Gakkle Ridge. Fall Meeting of the American Geophysical Union (Poster presentation).

Said, M; Birner, S K; Cottrell, E. 2015. Oxygen fugacity of abyssal peridotites along the Gakkle Ridge. Meeting of the Geological Society of America (Poster presentation).

Sorman, Melanie; Fraass, Andrew; Huber, Brian; Acha, Beatrice; Wiggins, John Wesley. 2016. Morphometric and stratophenetic study of the Rotalipora lineage (planktic foraminifera) during the middle and late Cenomanian. Geological Society of America Annual Meeting (Poster presentation).

Dafoe, Ashley C; Hunt, David R. 2017. The Accuracy of Nutrient Foramen Versus Midshaft Measurements of the Tibia for Sex Determination. Annual Meeting of the American Academy of Forensic Sciences (Oral presentation).

Florez, D; Andrews, B J. 2017. Entrainment and runout of Martian pyroclastic density currents. Lunar and Planetary Science Conference (Poster presentation).

Sosa, E S; Lunning, N G; McCoy, T J; Bullock, E S; Corrigan, C M; Gardner-Vandy, K G. 2017. Constraining the petrogenesis of the paired achondrites GRA 06128/9 through partial melting of an oxidized chondrite. Lunar and Planetary Science Conference (Poster presentation).

Woolard, Katherine; Pobiner, Briana. 2017. Cautionary tales in the use of captive carnivore tooth mark data. Society for American Archaeology (Oral presentation).

Aoki, N; Mushegian, N; Katija, K; Osborn, K. 2017. Kinematic description of locomotion in tomopterid polychaetes. Meeting of the Association for the Sciences of Limnology and Oceanography (ASLO) (Oral presentation).

Sorman, Melanie; Fraass, Andrew; Huber, Brian; Acha, Beatrice; Wiggins, John Wesley. 2016. Morphometric and stratophenetic study of the Rotalipora lineage (planktic foraminifera) during the middle and late Cenomanian. Geological Society of America Annual Meeting (Poster presentation).

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Aoki, N; Mushegian, N; Katija, K; Osborn, K. 2017. Kinematic description of locomotion in tomopterid polychaetes. Meeting of the Association for the Sciences of Limnology and Oceanography (ASLO) (Oral presentation).

Abbott, Caroline P; Sues, Hans-Dieter; Lockwood, Rowan. 2017. The Dimetrodon dilemma: reassessing posture in sphenacodonts. Geological Society of American Annual Meeting (Poster presentation).

Brook, Zev; Barclay, Richard S; Wing, Scott L. 2017. Cell size in Gingko and the paleo-CO_2 proxy. Geological Society of America Annual Meeting (Poster presentation).

Wood, HM; Flynn, BI. 2018. You Are How You Eat: Chelicerae Orientation and the Diversification of Spiders (Arachnida: Araneae). Society for Integrative and Comparative Biology (Poster presentation).

Benavidez, B M; Hunt, D. 2018. What teeth can tell you: oral health in two Paleo-Indian populations. American Association of Physical Anthropologists Annual Meeting (Poster presentation).

Carreon, S; Austin, R; Sholts, S. 2018. Dental Caries Analysis of the Channel Islands. Society for American Archaeology (Poster presentation).

O'Brien, Elizabeth; Edwards, Robert D; Radosavljevic, Aleksandar; Funk, Vicki. 2018. Patterns of plant endemism and diversity in the Guiana Shield. Botany 2018 (Poster presentation).

Scher, Mason; Barclay, Richard S; Wing, Scott L. 2018. The effect of CO_2 concentration on carbon isotope discrimination in Ginkgo. American Geophysical Union Fall Meeting (Poster presentation).

Richards, JC; Vecchione, M. 2019. The Diversity and Distribution of Cephalopods in the Charlie-Gibbs Fracture Zone. Society for Integrative and Comparative Biology Annual Meeting (Poster presentation).