LSU | Museum of Natural Science

Newsletter

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Volume 44 Issue 1

Xenodacnis parina
Photo by Quinn McCallum

WE BUILD TEAMS THAT WIN
IN LOUISIANA FOR THE WORLD

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Curator of Amphibians & Reptiles

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of Birds

Gregory Thom
Assistant Professor Curator of
Genetic Resources

Sophie Warny
AASP Professor
Curator of Palynology

Letter from the Director

Dear Museum Friends, Family and Alumni,

At a recent conference, I was asked by the President of the Association of Science Museum Directors (ASMD), what the LSU MNS mission statement was. I did not have a good answer, I knew the general mission of the Museum, and that we even had an entire page dedicated to our 'Misson Statement" on our website. But unlike other similar institutions our statement was several paragraphs long and we didn't have a short, one sentence, statement that could be put on a t-shirt or mug, or as a tattoo across my forearm. When I returned to the LSU MNS I joined the "ASMD" and asked the curators to brainstorm a statement that reflected our values, we came up with:

"To understand and conserve the natural world through field-based scientific research and collections."

Still too long for a tattoo perhaps, but it works as a short summary statement of our goals. I used this mission statement to help request funds for our LSU Giving Day campaign.

I'm also very thankful to the folks at the College of Science who produced an amazing Giving Day video highlighting our fieldwork research, teaching, training, mentoring, and outreach efforts (you can find it on our YouTube channel).

The Museum of Natural Science raised over $6500 from 54 donors, including; $770 for the Ornithology Student Support Fund, $1730 for the MNS Academic and Research Support Fund, and $4116 for the MNS Development Fund. Thanks to everyone who donated. If you missed the opportunity to give, that door never closes. Please use this QR code to donate to the Museum.

This April we also celebrated the 20th work anniversary of Ms. Tammie Jackson, our Business Manager. I call Tammie 'the boss' and for good reason, she has helped the Museum in all aspects of our work and has been a steady and loyal force. She loves us and we love her. Thank you Tammie!

-Credit: Prosanta Chakrabarty

Articles

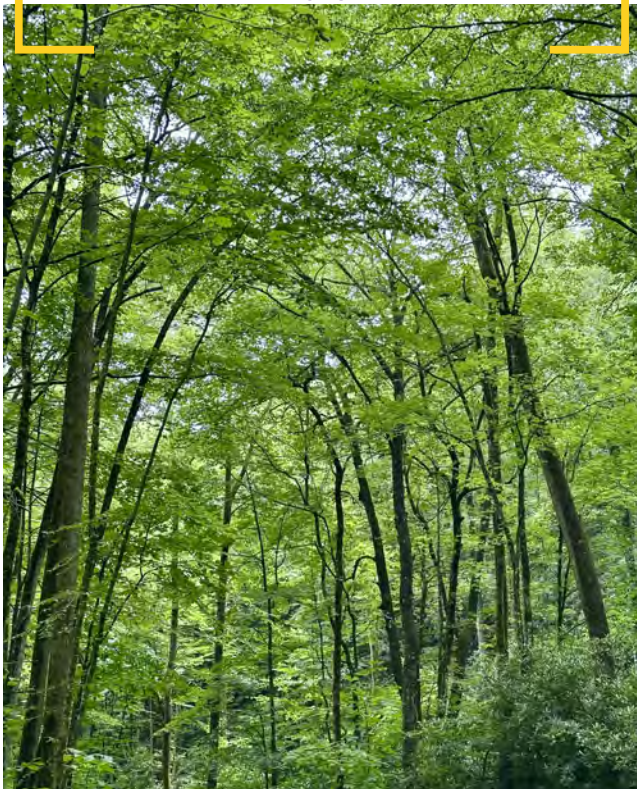
Shrews of the Smoky Mountains: investigating seasonal variation in metabolic strategies

by Dr. Toni Androski, Darwin Morales-Martínez, and Claire Watersmith

Shrews are truly enigmatic animals. With their tiny size, they face extreme demands for metabolic heat production. Extraordinarily, they prosper in the hostile, cold environments of high latitudes. To survive the winter, some species undergo a fascinating process called Dehnel's Phenomenon: they actually decrease in size! This includes rigid structures like postcranial bones and even the skull, alongside essential organs like the liver and brain. Once summer returns, the bones and organs regrow.

Why do these tiny mammals have such high energetic demands in such environments? And if their bodies change so drastically in winter, does their metabolism follow a similar pattern? These questions are at the heart of our research, and we are finally beginning to gather the data needed for an answer.

Amazing green forests at Coweeta Hydrologic Laboratory in the summer 2025.



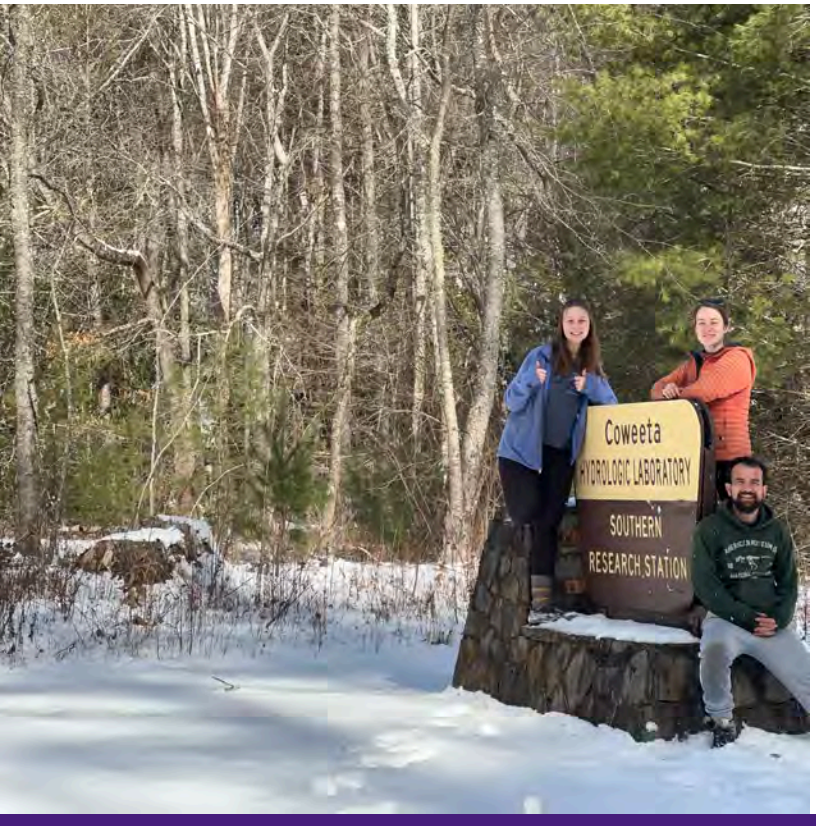
During summer 2025 and winter 2026, we partnered with the McLean Lab at UNC Greensboro to sample as many shrew species as possible in North Carolina, collecting both morphological and metabolic data. Our work took us to the Coweeta Hydrologic Laboratory in Macon County, the Southern Smoky Mountains near the Georgia border. Together, we installed more than 200 pitfall traps across the landscape during late July and early August, 2025, and again in late January and early February 2026.

In the summer session, we sampled several localities in Coweeta. The forest was wonderful, filled with green trees and countless streams. With the soil soft and easy to dig, the work was a pleasure. Beyond the excitement of the captures, we enjoyed the daily treks between sampling stations. During this session, we successfully obtained metabolic data from individuals of the Smoky Shrew (*Sorex fumeus*) and the Northern Short-tailed Shrew (*Blarina brevicauda*).

Common shrew, *Sorex cinereus*, from Coweeta Hydrologic Laboratory.

Winter fieldwork was a bit more challenging, as the weather forced us to focus on lower-elevation sites. We had an amazing first day of trapping but were soon hit by one of the largest snowstorms of the year. The forest was completely transformed, buried under a thick white blanket that hid our traps. We spent our days searching for and clearing every single trap in temperatures reaching -15 ºC (5 ºF), and thermal sensations reaching -20 ºC (-4ºF). The ground, once soft, felt like concrete. Despite our best efforts, clearing trap perimeters and relocating stations with frozen hands, the shrews proved elusive in these conditions. However, there was still good news! We left Coweeta with frozen fingers but full notebooks; we managed to recover vital data from three species: *Sorex fumeus*, *Blarina brevicauda*, and the Masked Shrew (*Sorex cinereus*).

Left: Winter work in Coweeta Hydrologic Laboratory. **Right:** Darwin Morales preparing the pitfall traps in the winter fieldwork.



We are now back in the lab, processing these measurements and plotting our next adventures. Our preliminary results suggest that while shrews are shrinking to survive the winter, they are also slowing their metabolism to conserve energy. We look forward to sharing further findings as we continue to piece together the tale of shrew metabolism.

Claire Watersmith, Toni Androski, and Darwin Morales on the last day of winter fieldwork at Coweeta Hydrologic Laboratory.

Mason Lab expedition to *polylepis* forests of Arequipa Department, Peru

by Quinn McCallum

In November of 2025, four ornithologists from LSUMNS division of Ornithology, Dr. Nicholas Mason, Sebastian Pérez-Peña, Eryn Woernley, and myself, set out from Baton Rouge, Louisiana, to Arequipa, in southern Peru. Our goal was to collect genomic samples of birds in *Polylepis* forests, one of the most unique and endangered habitats in the central Andes. *Polylepis* is a genus of plant in the rose family with a distinctive multi-layered bark. These forests act as important humid micro-refugia in the dry and open high elevation grasslands of the Andes, and host a unique bird community, including several highly specialized species. Dr. Mason's recently-awarded NSF career grant focuses on the evolutionary history and ongoing gene flow of species in this community, and my dissertation research focuses on some of these specialists. Our two major targets for the trip were the Giant Conebill (*Conirostrum binghami*), which is a true *Polylepis*-forest obligate species, and the Tit-like Dacnis (*Xenodacnis parina*) a species with a disjunct population in Arequipa department from which there were no available modern genetic samples.

Immature male Tit-like Dacnis, *Xenodacnis parina* -Credit: Quinn McCallum.

Leaves of *Polylepis rugulosa* -Credit: Quinn McCallum.

Once we arrived in Arequipa, we met up with our collaborator, Víctor Gamarra-Toledo, curator of birds at the Museo de Historia Natural de la Universidad Nacional de San Agustin de Arequipa (MUSA), and his team of rotating MUSA volunteers: Yuri Peña-Dominguez, Yesica Bustamante-Mamani, Mayori Soto-Huaira, Rodrigo Mena-Yari, Karen Ripas-Mamani, and Yaquelyn Ferrandez-Catacora. Additionally, we were joined by long-time LSU-affiliated field biologist Emil Bautista-Obispo. This was our first time working with MUSA, which is a local collection at the national university in Arequipa. MUSA is also quite active, engaging many undergraduates in museum-based research. It was a pleasure and an honour to work with Víctor and the MUSA crew, who shared their deep knowledge of local birds, history, and culture with our LSU team. We look forward to working with them again on future field work in southern Peru.

The LSUMNS/MUSA team enjoying a rare free evening at El Simbral, above Arequipa, Peru -Credit: Sebastian Pérez-Peña)

The LSUMNS/MUSA team at Cotahuasi canyon. **From left to right:** Emil Bautista-Obispo, Sebastian Pérez-Peña, Eryn Woernley, Dr. Nicholas Mason, Quinn McCallum, Víctor Gamarra-Toledo, Rodrigo Mena-Yari, Yuri Peña-Dominguez, and Yesica Bustamante-Mamani.

In total, we visited five different sites throughout Arequipa Department over the course of four weeks. These included two well-known sites near the city of Arequipa, one previously unstudied site near Huambo, and two sites in Cotahuasi Subbasin Landscape Reserve, which protects one of the deepest canyons in the world. We collected nice series of both our target species, as well as Ash-breasted Sierra Finch (*Geospizopsis plebejus*), the subject of another graduate student project in the lab.

Additional highlights include several Giant Hummingbirds (*Patagona gigas*), Rusty-crowned Tit-spinetail (*Leptasthenura pileata*), and three Stripe-headed Antpitta (*Grallaria andicolis*). In total, we collected 310 specimens of different 45 species, plus two blood-only samples, which were split evenly between LSUMNS and MUSA. Many of these genetic samples will be used as part of the lab's broader comparative population genomics project, as well as the dissertations of two graduate students.

Rusty-crowned Tit-spinetail (*Leptasthenura pileata*) - Credit: Eryn Woernley.

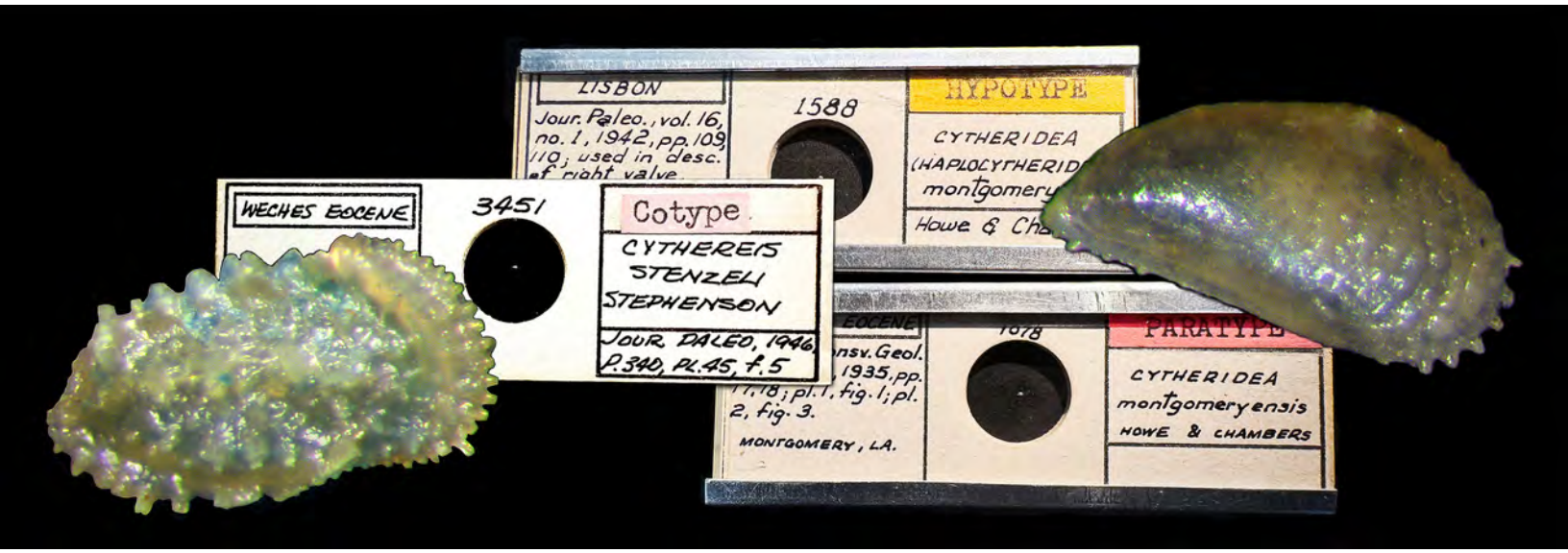
LSUMNS microfossil collections have major research role

by Lorene Smith

In March, Dr. Gene Hunt, Curator of Ostracoda at the National Museum of Natural History, made his eighth trip to the LSU Museum of Natural Science since 2014. Recognized as one of the best university repositories of microfossils, the invertebrate paleontology section of the LSUMNS has proven a great resource for Dr. Hunt's research on evolution using Coastal Plain ostracods from the Cretaceous and Paleogene. Gene and his coauthors have published several papers on topics such as diversity, extinction, and shifts in sexual dimorphism using data collected from specimens in the Stratigraphic Faunal Assemblage Slide Collection, as well as the H.V. Howe Type Collection.

Started in the 1920s by world-renowned micropaleontologist Henry Howe, the LSU microfossil collections include material donated by prominent researchers in the study of Ostracoda and Foraminifera.

Dr. Gene Hunt at the Section of Fossil Protists and Invertebrates.



Ostracod specimens in the H.V. Howe Type Collection.

Numerous localities and geological formations are represented in the Stratigraphic Assemblage Slide Collection.

A History of DNA Sequencing and How It Has Changed the Way We Do Science at LSU

by Paige Jarreau

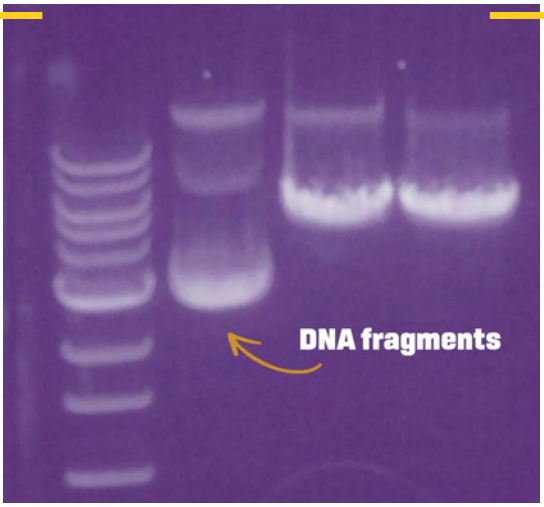
It's 1979. Imagine carrying a 60-pound liquid nitrogen tank up a mountain in the Andes, on the off chance that you might sight a bird new to science. You are doing this to preserve a tissue sample from a specimen you might capture, but not for yourself. You are doing this so museum scientists can study your bird's genetics for decades to come. No serious technology for analyzing DNA even exists ... yet.

Fast forward to 2026. The LSU Museum of Natural Sciences holds one of the largest collections of vertebrate genetic resources in the world, with over 200,000 samples. These samples come from specimens of birds, mammals, herps (reptiles and amphibians), and fish collected all over the world, from the U.S. to Southeast Asia to Papua New Guinea.

Many of these samples were collected and stored in liquid nitrogen – a condition critical to preserving sensitive molecules – before the technologies even came along to analyze most of their molecular signatures.

"The collection was officially created in 1979," said Gregory Thom, curator of genetic resources at the museum. At first, researchers created private collections of tissue samples from field expeditions, but quickly began combining them.

In the 1970s, rudimentary techniques for analyzing DNA – lovingly referred to as the blueprint of life, the molecule that holds the instructions for your body to function – were just coming online. At first, museum scientists could only look for differences in DNA code indirectly. If they wanted to see how human DNA differed from mouse DNA, they used enzymes, or "molecular scissors," to cut the DNA at specific sites. The resulting DNA fragments would vary in size and cut patterns (like paper snowflakes) across organisms and species.



Top: An artistic representation of DNA. **Bottom:** Gel electrophoresis image of DNA fragments.

Then came two key developments. First came a method for capturing, letter by letter, the code of a growing DNA strand by tracking the addition of labeled nucleotides (the “letters”). Then came the Polymerase Chain Reaction (PCR) technique, invented in 1985 by Kary B. Mullis. With PCR, scientists could make millions of copies of a small amount of DNA present in a sample.

Suddenly, researchers could efficiently amplify and then decode a specific region of DNA they were interested in. Museum scientists at LSU often examined a segment of DNA within mitochondria that steadily changes over evolutionary time; it is useful for distinguishing animal species from one another, and it was the first step towards building the tree of life.

“Our museum researchers at LSU were really pioneers,” Thom said. “I don't think they could even imagine that 40 to 50 years later, we would be sequencing whole genomes left and right in a very straightforward way.”

LSU researchers made the preservation of high-quality tissues from field-collected specimens a standard practice. They knew the technology would come. They stored tissue samples in liquid nitrogen, much colder than the standard laboratory -80°C freezer, to better preserve DNA, RNA, and proteins for yet-to-be-invented analysis techniques.

Fun Fact: PCR uses a protein isolated from a heat-loving bacterium that can build new DNA strands from a template. It works at high temperatures, enabling an efficient heat-cycling process that copies DNA.

Same Samples, Ever More New Data

Preserving as much data as possible from a specimen, even if that data isn’t accessible to researchers at the time of collection, is one way museum experts ensure no animal is captured and euthanized without a purpose. A single specimen can provide data for countless research projects and conservation efforts for years to come.

“Hundreds, if not thousands, of research papers were published using data from our museum samples in that PCR era, from the 1980s to the early 2000s,” Thom said.

Researchers soon began combining the molecular “scissor” technique with new, faster techniques for decoding DNA’s letter sequence.

Gregory Thom from the LSU Museum of Natural Sciences processing samples for DNA analysis in the field.

For faster sequencing, researchers would digest a genome – an organism's entire DNA sequence – into short, single-stranded DNA fragments. They would then add in nucleotide building blocks (A, T, G, C), each labeled with a different dye, before using PCR to grow matching strands (DNA typically exists as a double helix with two paired strands). They would watch for color patterns at each PCR step as hundreds of matching DNA strands were synthesized letter by letter, ultimately decoding the sequence.

Of course, this required lots of analysis and computation to piece the fragmented code back together. Today, artificial intelligence is instrumental in matching these pieces together more quickly and accurately.

But early DNA sequencing was slow, labor-intensive, and costly, so it wasn't usually feasible to decode an entire genome. Adding the molecular scissor technique allowed researchers to target only select areas of the genome they were interested in. But sequencing even 1-2% of the genome allowed museum researchers to begin building phylogenetic, or family, trees for animals.

Soon, however, the floodgates would open. Sequencing would become cheap and fast enough to enable routine whole-genome sequencing. But the raw data were already there, thanks to forward-looking LSU researchers.

"Around 2020, things really started changing towards whole genome sequencing," Thom said. "Now, the sequencing technologies are so advanced, the protocols are so efficient, that we can sequence high-quality whole genomes for non-model organisms for fairly cheap."

Whole Genome: From Cancer to Fishes

Within the last decade, next-generation sequencing technologies have made rapid whole-genome sequencing accessible. Whole genome sequencing is faster and cheaper than ever, thanks to technologies that can analyze millions of DNA fragments simultaneously, often with the fragments attached to a chip or a flow cell surface. Researchers now use it to study everything from evolution to cancer.

Prosanta Chakrabarty, a professor and curator of fishes at the LSU Museum of Natural Sciences, has both a scientific and a very personal interest in genetics and how it is changing the way we approach science and healthcare.

In 2024, Chakrabarty was diagnosed with colon cancer.

Prosanta Chakrabarty with a deep-sea fish in the LSU Museum of Natural Sciences.

"For a long time, the only option was chemotherapy, which I did 24 times. It sucks. It was worse than how the cancer made me feel," Chakrabarty said.

But as modern genetic analysis techniques and molecular understanding of cancer improve, treatment options are improving as well.

"Now, doctors can analyze your genotype (genetic makeup) versus the genotype of the cancer," Chakrabarty said. "They can analyze the genetic mutations present only in the cancer tissue and tailor treatment based on that."

By analyzing exactly how cancer cells in his body differ genetically from his healthy cells, doctors can train Chakrabarty's immune cells to recognize the downstream protein products of those genetic changes and attack cancer cells. This is a technique called immunotherapy.

"It's incredible to me, the level of personalized cancer care we can now do because we have the sequence of our entire DNA," Chakrabarty said. "And at the same time, we are also in a golden era of animal, plant, and fungal genetics and the ability to understand the tree of life."

Fun Fact from Chakrabarty: Humans don't have the largest genome in the animal kingdom. That record goes to an organism you'd least expect: the lungfish, an ancient-looking fish that can breathe air. In fact, LSU researcher Igor Schnieder and his lab have been exploring exactly why the lungfish genome is so large. (Hint: it seems lungfishes developed many copies of genes related to fin and limb development and regeneration.) Other organisms with massive genomes include a single-celled amoeba, rice, and axolotls.

"What makes something a living thing is a lot more complicated than we thought before we understood DNA, especially whole genomes," Chakrabarty said.

On the other hand, birds have smaller genomes, not because they are less complex, but because they need small and efficient genomes so that their cells are light to help them fly! You don't think of DNA as being something that takes up mass and weight; it's invisible to the naked eye. But if you took all the DNA in your body and pulled it out into a single, linear strand, it could stretch beyond the Moon.

But how is genome size not directly related to complexity? Birds with small genomes certainly seem more complex than single-cell amoebas with huge ones.

There are many layers of complexity on top of the genome. These additional layers of control dictate what downstream products, including the RNAs and proteins, are produced (called gene expression) from the underlying genetic blueprint. The same gene in two organisms, or even duplications of that gene in the same organism, can produce very different downstream products.

This is where the power of the LSU museum's liquid nitrogen tissue storage really comes into play. Flash-freezing samples preserves not just DNA, but also downstream RNA and protein products. Scientists around the world come to the museum to gain access to the data stored in these samples.

For example, LSU researcher Nick Mason is analyzing the protein products of genes involved in oxygen metabolism to understand how birds that live at high versus low altitudes use these genes differently. That wouldn't be possible without flash-frozen tissue samples from birds living in different locations.

Studying animal evolution through genetics is not just an exercise in understanding these animals. It also helps us better understand ourselves. Chakrabarty is studying genes and gene mutations in fish, including a Hox gene mutation that may be related to hip dysplasia in humans. Other researchers look at animals with unique abilities, such as the ability to evade cancer or regenerate limbs, to understand how we might harness related genes and gene products to fight cancer and improve wound healing.

"We tend to think that understanding DNA unravels all the mysteries of who we are," Chakrabarty said. "But we're still at the early stages of figuring that out. It's like the moon missions – we have to continue going to the moon because we've only just scratched the surface of the mysteries it holds."

The Tale of the Army Ant Birds: The Power of Long-Read Sequencing

For decades, museum researchers relied on small genetic fragments and analysis of a handful of genes to build evolutionary trees. But much of the story of how various species evolved and what powered their incredible adaptations remained hidden.

“Before whole genome sequencing, we couldn't tell the full picture of what was going on with a particular species because we were restricted to seeing a very small part of their genome,” said LSU evolutionary biologist Gregory Thom. “Now, whole genomes are a kind of Pandora's box.”

A species of bird that tracks army ants.

Thom’s lab is using whole-genome and long-read DNA sequencing to better understand one particularly complex ecological system: the relationship between army ants and the birds that follow them through tropical forests.

Army ants are top predators in tropical ecosystems, moving through forests in large, nomadic colonies. “They build a nest with their own bodies to protect the queen. And when it's time to move, they just move,” Thom said. “They prey on everything.”

Injured insects and animals that army ants feed on can also become dinner for bird thieves.

Today, many bird species track and trail army ants to feed on the ants’ victims. Some species of birds are aggressive in stealing food from the ant swarm, while others hang back and feed on the leftovers. These birds don’t only face fierce competition from one another, but they also have to survive toxic and aggressive army ants.

Thom studies how different species of army ant-tracking birds have genetically adapted to this lifestyle. But it’s been difficult to do that until third-generation sequencing technologies like long-read DNA sequencing emerged.

For example, how do these birds track army ants in the first place? Studying this question led Thom’s lab to look at the evolution and genetics of olfaction.

“For a long time, people thought that birds couldn't smell, or at least they weren't very good at smelling,” Thom said.

That may have been because regions of the genome associated with olfaction in birds tend to be highly repetitive and unusually coiled, making them difficult to sequence with traditional techniques that fragment the genome. But long-read sequencing is revealing avian olfaction gene families in new detail.

“We're just figuring out that olfaction is something really important for some of these species,” Thom said.

Long-read sequencing is also allowing Thom to sequence other areas of bird genomes that have long been a nightmare to piece together, including genes associated with the immune system.

“We're also finding that there are major changes in the immune system of these species that track army ants, because they're exposed to a lot of pathogens as they congregate in large numbers around the ant swarms,” Thom said. “We are also studying the genetic basis of the blue skin some of the birds have developed around their eyes to symbolize dominance. This is something we couldn’t do even five years ago.”

With next-generation sequencing tools, the army ant bird system has become a living laboratory for understanding evolution and tracking down specific genes to see how other animals, including humans, might deal with toxic substances and pathogens.

Meanwhile, other genetic experts are moving beyond DNA analysis to explore downstream products – RNA and proteins – to better understand health and disease.

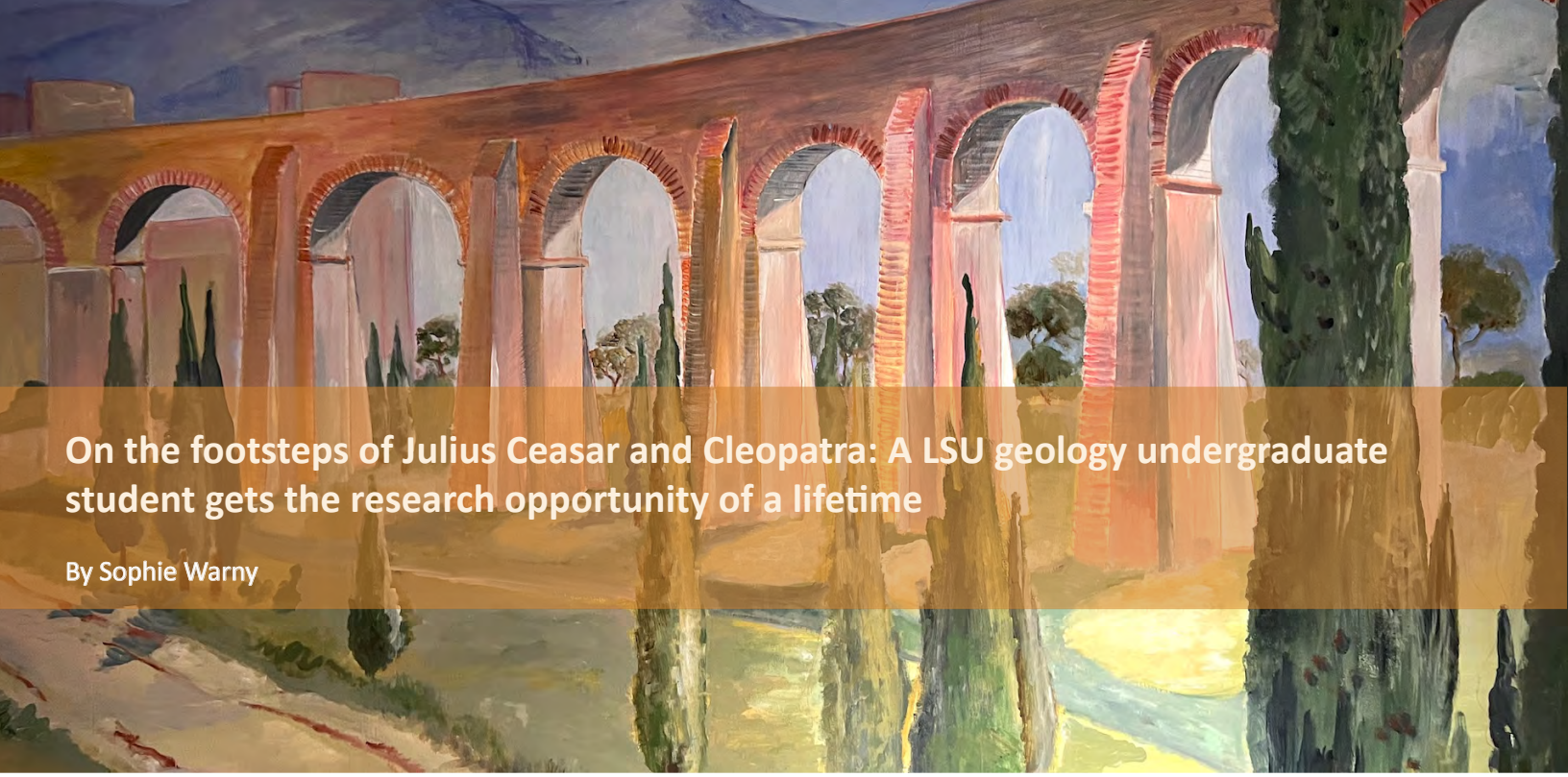
New Frontiers

DNA, RNA, and protein analysis techniques will continue to improve, revealing aspects of our genetic histories and mechanisms underlying health and disease that we didn't know existed.

"There's just so much data now," Chakrabarty said. "We may go into the jungle to collect animal species for our research, but when we come back to the lab, we have another jungle to explore within their genomes. The possible insights still hidden in these samples are mind-boggling."

However new sequencing technologies evolve, one thing is for sure: LSU researchers will be there to use those tools to glean new insights into our world and improve human health.

-Text adapted for this publication. You can find the original text at the LSU Blog.



On the footsteps of Julius Ceasar and Cleopatra: A LSU geology undergraduate student gets the research opportunity of a lifetime

By Sophie Warny

Top: Painting representation of what the Fréjus Roman aqueduc might have looked like in 100 years BCE (painting on display at the Fréjus Archaeological Museum) Bottom: Actual remnants of the Roman aqueduc in the town of Fréjus.

On March 5, 2026, our group at CENEX had the opportunity to start a new collaboration with the town of Fréjus, France, to handle the palynological analyses of some of their newly recovered cored sediments. This collaboration was established with Mr. David Rachline, Mayor of the town of Fréjus, and the town's "Direction de l'Archéologie et du Patrimoine".

The palynological analyses will be handled by Warny, along with her undergraduate student, Tristan Ilgenfritz, and her colleague, Dr. Suzanne Leroy, an emeritus professor from Aix-en-Provence, France, who facilitated the collaboration.

As a child, Tristan, a first-generation university student, dreamed of pursuing a career in geoarchaeology. His aspiration was recently fulfilled thanks to a REU (Research Experience for Undergraduate) at the LSU CENEX center with funding from the AASP endowment. This project did not simply fulfill his dream, but it propulses him into one of the most iconic Roman archeological centers in Europe. Indeed, the town, named "Forum Iulii" during the Roman period, was built around a port that was known for having hosted the fleet of Antony and Cleopatra in 31 BCE. It was then considered the third largest war port of the Mediterranean Sea. Julius Caesar and Cleopatra are one of history's most famous power couples. Cleopatra, the last pharaoh of Egypt, sought Caesar's support to secure her throne and strengthen her position against her brother, Ptolemy XIII. Their union was not only romantic but also politically strategic, as it aimed to solidify an alliance between Rome and Egypt. It goes without saying that working on such an important site will require extreme care.

We received an amazing welcome from the team of archeologists (top picture) of the direction of Archaeology and Patrimony in Fréjus, led by its director, Pierre Excoffon. Their office carries out the majority of preventive archaeological operations on its territory since its creation in 1982.

Designed to accommodate military and commercial fleets, the ancient harbor basin went through structural adjustments partly because of environmental changes (Excoffon and Bonnet 2016). The geographical situation of the city at the mouth of the Argens River makes it particularly sensitive to the effects of the shoreline movements. Those movements related to the progradation over the past 6000 years, contributed to a great extent to transform the geographical environment of the city throughout its history (Excoffon et al., 2024).

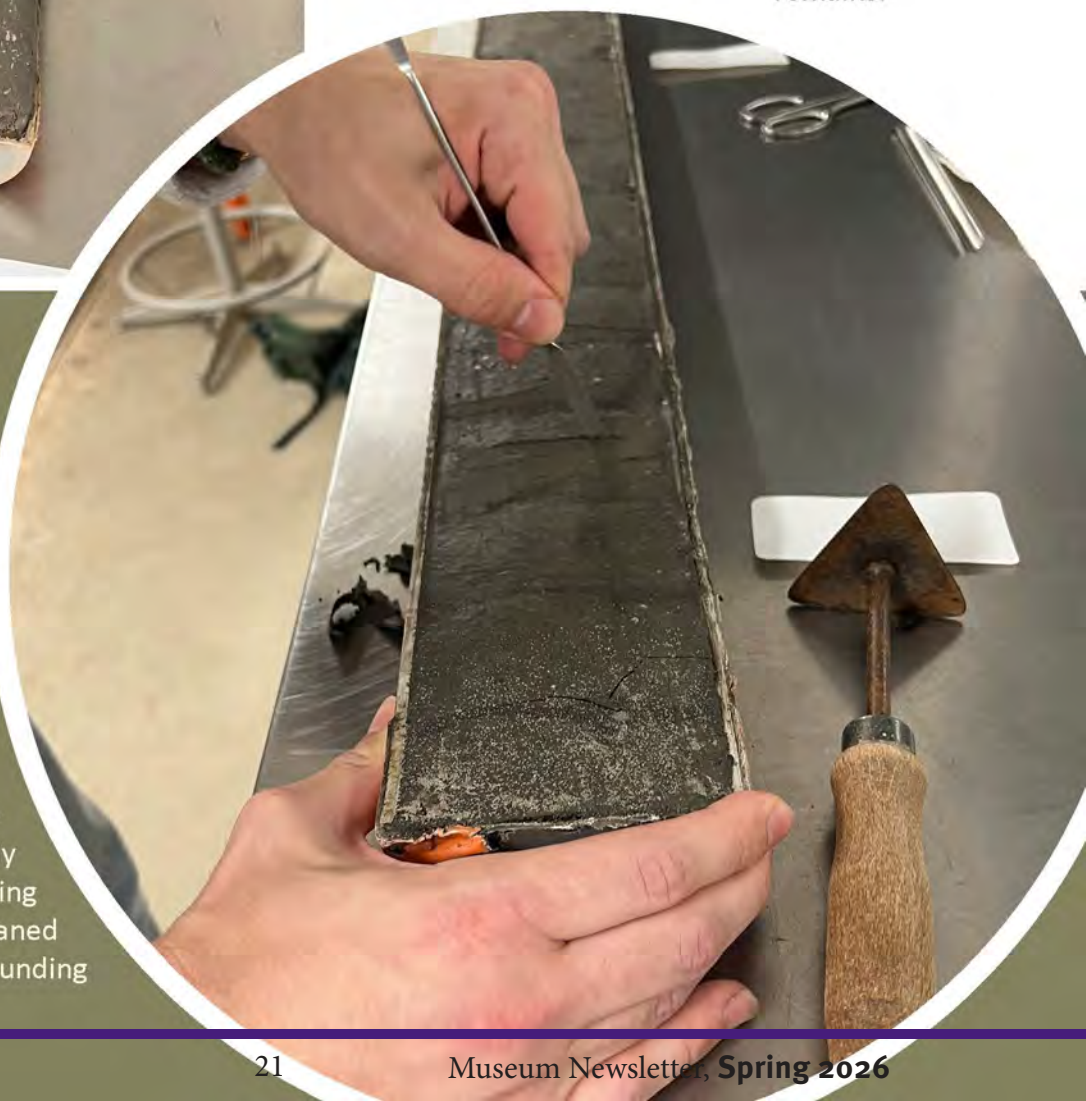
The excavations in the town and its surrounding areas have been conducted in parallel with geomorphological studies and multidisciplinary approaches owing to a collaboration with numerous institutional partners such as CENEX, in France and abroad.

Our role will be to conduct the palynological analyses of the recently acquired cores (pictured to the left) collected during their 2024-2025 “Reydissart” project.

The sediment recovered recorded the constant evolution of the city, from the Pliocene to the Roman period and beyond. This record provides a unique opportunity to conduct urban geoarchaeology research, with a special focus on shoreline migration at the mouth of the Argens River. The Argens is a 116 km long river of the French Riviera, its drainage basin is fully included in the Var department. The river goes through some villages including Vidauban, Le Muy, Roquebrune-sur-Argens, and Fréjus where it flows into the Mediterranean Sea.

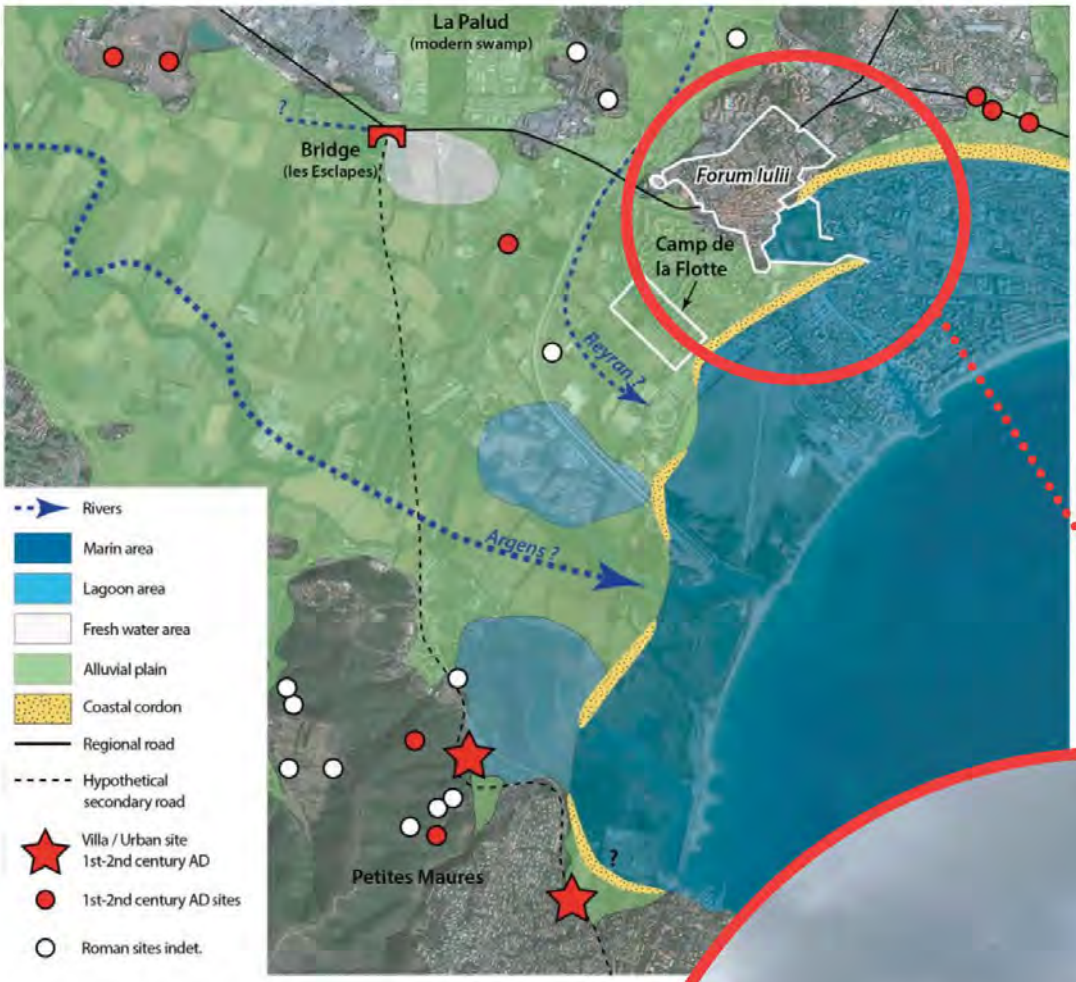
LSU's palynological study will focus on the characterization of the spatial interlocking of the alluvial, marine and lagoon environments during Antiquity on the banks of the Argens River.

The study will include the changes in palynomorph assemblages that we will extract from the sediments. These include dinoflagellate cysts, pollen and spores, but also fungal spores and potential evidence of intestinal parasite remains.



Top: LSU undergraduate student Tristan Ilgenfritz learns from LSU professor Phil Bart how to describe cores that spans the time interval before, during and after the lifespan of the Roman harbor. This is an essential part of the training as it will guide the sampling strategy and focus on the most appropriate sedimentary layers.

Right: Tristan learns how to properly sample the core by first making sure that the cores are oriented properly (top versus base), and by insuring that all tools and surfaces are cleaned to prevent contamination by surrounding palynomorphs.



Fréjus from Roman times (top) to present day (below)

Thanks to the partnership with the city of Fréjus, Tristan will have the unique opportunity to provide key geoarchaeological/palynological data that will add values to these important paleo-environmental reconstructions.

Specifically, the organic-walled microfossils we will extract should provide several important clues. First, dinoflagellate assemblage changes should provide clues on the evolution of sea-surface conditions (salinity and temperature) through time, while pollen and spores will provide vegetation reconstruction for paleoenvironment and should identify introduced plants that the Romans were focussing on for agriculture.

Top: Reconstruction of the litoral (IV-II BC) from "Dossier patriarche SRA 15607 N°2024-306 n°2024 / code insee 83 061" by Grégory Gaucher and Alex Hairabian (June 2025).

Bottom: View of the town of Fréjus with field in the forefront where the harbor used to be located. See insert location on the top illustration.

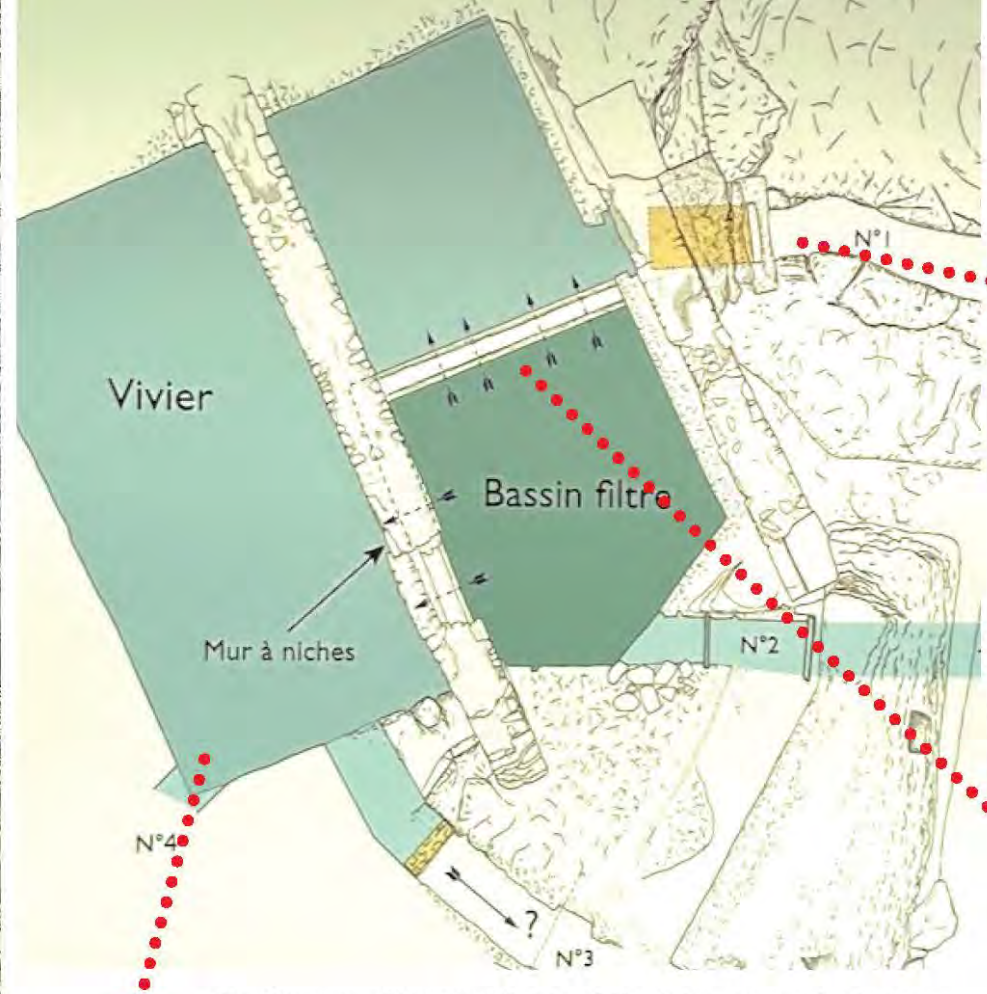
Over the last 2000 years, the sedimentary dynamics of the entire Gulf of Fréjus have moved the coastline almost 2 km away from the town center, thereby "fossilizing" its ancient port basin (Excoffon et al., 2024).

Here you see details of the harbor, where it is still partially visible today and has been protected since 1886 by its registration as a French Historic Monument (Excoffon et al., 2024).

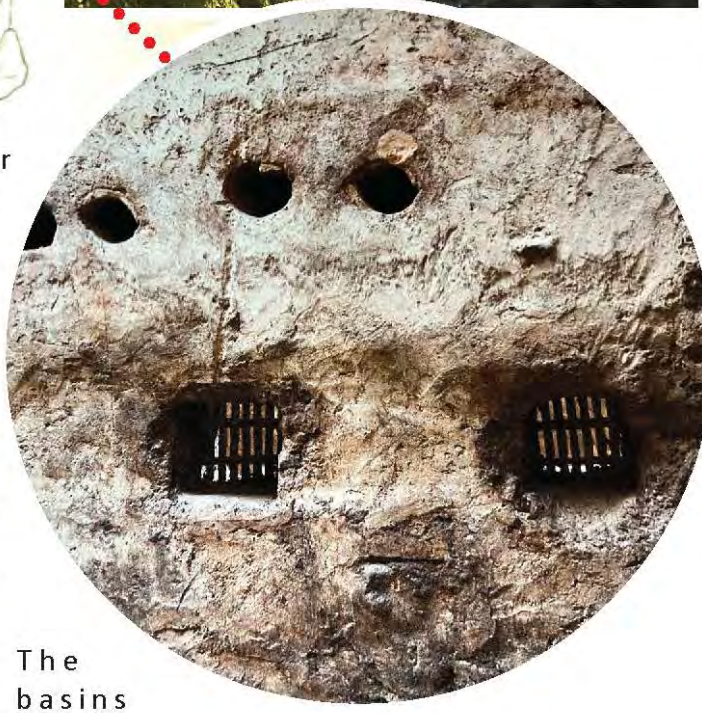
The reconstruction of the large Roman-time city of "Forum Iulii" above is visible at the Fréjus Archaeological Museum, place Calvini. The left insert pictures one of the well-preserved towers "la Lanterne d'Auguste" that used to border the Roman port as a navigation landmark. The right insert represents the team sampling one of the remaining walls that protected the port from the Mediterranean Sea. This wall is now located in the middle of a meadow. The bottom insert shows a detail of the wall, composed of a type of concrete made by mixing lime and pozzolana, a siliceous volcanic ash that surrounds Mount Vesuvius in Italy, but that is also found in the vicinity of Pozzuoli, near Naples. When pozzolana is mixed with lime, it allows this mortar to set hydraulically, i.e., to harden underwater, hence its use for the harbor walls.

While there, we had the unique chance to view some of the world-class artefacts that are in private collections or displayed at the town's Archaeological Museum.

Among the amazing antique carved elements recovered are some monuments' decoration, including columns and ornaments (top two inserts), but also more fragile items such as hair pins and pots (next two inserts). The museum also hosts representations of the heads of Hermes (bottom insert) and Jupiter carved in pristine Carrara marble. But one of the showstoppers is a perfectly preserved mosaic that attest to the luxury housing built during the Augustus era.



Finally, one of the highlights of the trip was a private tour by Pierre Excoffon of a Roman fishpond he recently discovered while some workers were digging in preparation of building the foundations for a new apartment complex. This was a key discovery that highlighted the importance of fish in the Roman diet (often in the form of *garum*), but also likely the key role fishing played in the town's economy. The structure discovered is made of two fishponds (one later split into two) and a series of three canals that were located between the southern rampart of the ancient city and the northern limit of the port.



The basins were located adjacent to the sea, which allow them to regulate the salinity of the water to accommodate the fish salinity requirements. The three channels, exposed today, were dug into the rock. In a later phase, we were told that Romans installed a new wall in the middle of basin #2, that included lead filters (see insert above) to prevent sediment to accumulate in the main basin, and possibly to prevent predators such as sharks to invade the nursery.

News

Awards & Achievements

Dr. Robb Brumfield received the prestigious Elliott Coues Award from the American Ornithological Society! This award recognizes outstanding and innovative contributions to ornithological research. Shortly after, he was honored at LSU's 2025 Presidential Laurels Ceremony for his exceptional leadership and contributions to research, education, and the LSU community.

Dr. Prosanta Chakrabarty was named a Fellow of the California Academy of Sciences! Congratulations!

Dr. Nick Mason was named as a fellow of the American Ornithological Society and also received the LSU Prestigious Pathway Award. Congratulations!

Ms. Tammie Jackson, received an LSU recognition for her 20 years of service at the university and won the College of Science 'Staff Excellence Award.' Congratulations!

Amanda Harvey received the Nisbet Research Award ($5,000) from the Waterbird Society. Congratulations!

Gustavo Martins received the Chapman Memorial Fund grant from the American Museum of Natural History. Congrats, Gustavo!

Quinn McCallum earned the Dr. Richard Bruch Distinguished Graduate Student Scholarship from LSU Biological Sciences Congratulations, Quinn!

Luca Michelli received American Ornithological Society Award. Congrats, Luca!

David Vander Pluym received the Mary Lou Applewhite Fellowship from LSU Biological Sciences. Congratulations!

Publications

Recent Publications

Herpetology

Bernstein, J.M., **C.C. Austin**, J.A. Soto-Centeno, T. Huang, **J.R. Roberts**, J.A. McGuire, J.H. Frederick, J.L. Weinell, R.M. Brown, **S. Ruane**. In press, 2026. Diversification and Colonization in the Indo-Australian Archipelago: Genomic Insights from Colubrid Snakes. *Journal of Biogeography.*

Oliver, P.M., R.J. Laver, M.S.Y. Lee, F. Kraus, N.J Matzke, **C.C. Austin**, R.N. Fisher, C.C. Moritz, 2026. Very limited dispersal and differing evolutionary trajectories across proximate continental and insular regions in a widespread lizard radiation (*Gehyra*). *Biological Journal of the Linnean Society*, 2026, 147(3), blag004 https://doi.org/10.1093/biolinnean/blag004

Aniruddha Datta-Roy, A., Brandley, M.C., Chaitanya, K.R., **Austin, C.C**., Bauer, A.M., Harris, D.J., Carranza, S. and Kanishka, D.B., 2025. The contemporary distribution of scincine lizards does not reflect their biogeographic origin. *Journal of Biogeography.* https://doi.org/10.1111/jbi.15061

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Rodríguez-Machado, S., Elías, D.J., Torres-Pineda, P., Fromm, D. and **Chakrabarty, P.,** 2026. Fine-Scale Bioregionalization in a Complex Island System: A Freshwater Perspective From the Greater Antilles. Journal of *Biogeography*, 53(1), p.e70140.

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Roy, T., Lee, J.Y., Kawashima, T., Monroe, G. and **Chakrabarty, P.**, 2025. "The PO-Driven Model": A Basic Science Pipeline for the Bioeconomy with Solutions Inspired by Convergent Evolution for Connecting Parallel Research Ideas. *Integrative and Comparative Biology,* 65(1), pp.22-27.

Öztürk, R.Ç., Terzi, Y., **Rodríguez-Machado, S**., Başar, E., Feyzioğlu, A.M., Ustaoğlu, D., Ağırbaş, E. and **Chakrabarty, P.**, 2025. Metabarcoding the Arctic Ocean Helps Reveal Its Hidden Microbial Community Composition. *Turkish Journal of Fisheries and Aquatic Sciences*, 24(12).

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Mammalogy

Chipps, A.S., Hutter, C.R., Demos, T.C., **Esselstyn, J.A**., 2026. Genome evolution and the enigmatic axial skeleton of the hero shrew (Soricidae: *Scutisorex somereni*). *Genome Biology and Evolution*. 18: evag048.

Adams, A.L., Achmadi, A.S., Mursyid, A., **Handika, H.**, Rizaldi, M., Nurdin, T.J.P., **Esselstyn, J.A.**, Perkins, S.L., Rowe, K.M.C. and Rowe, K.C., 2025. Wildlife disease surveillance from village to peak: Trypanosome infections of mammals on Sulawesi revealed higher prevalence in intact montane forests. *Therya* 16, 125–141.

Androski, A., Malaney, J.L., Demboski, J.R., Liphardt, S.W., Fernández, J.A. and Cook, J.A., 2025. Range-wide mitochondrial phylogeography of *Sorex monticola*: evolutionarily distinct clades occupy divergent abiotic niches. *Journal of Mammalogy* 106(4): 898–932. DOI:0.1093/jmammal/gyaf019

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Paleontology

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Schiebout, J.A., Ting, S., White, C.D., McDonald, K.A. and **Smith, L.E.** 2025. Hunting, collecting, and preparing fossils. In **Ting, S., Smith, L.E., White, C.D.** and **Martí Gil, I.** (editors), *Vertebrate Fossils of Louisiana.* Special Publication of the Museum of Natural Science, Louisiana State University. 135-145.

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Ting, S, Boardman, G.S. and **White, C.D.** 2025. Mammalia: Rodentia and Lagomorpha. In **Ting, S., Smith, L.E., White, C.D.** and **Martí Gil, I.** (editors), *Vertebrate Fossils of Louisiana*. Special Publication of the Museum of Natural Science, Louisiana State University. 313-328.

White, C.D. and Boardman, G.S., 2025. Introduction to fossils and basic terminology. In **Ting, S., Smith, L.E., White, C.D**. and **Martí Gil, I.** (editors), Vertebrate Fossils of Louisiana. Special Publication of the Museum of Natural Science, Louisiana State University. 1-10.

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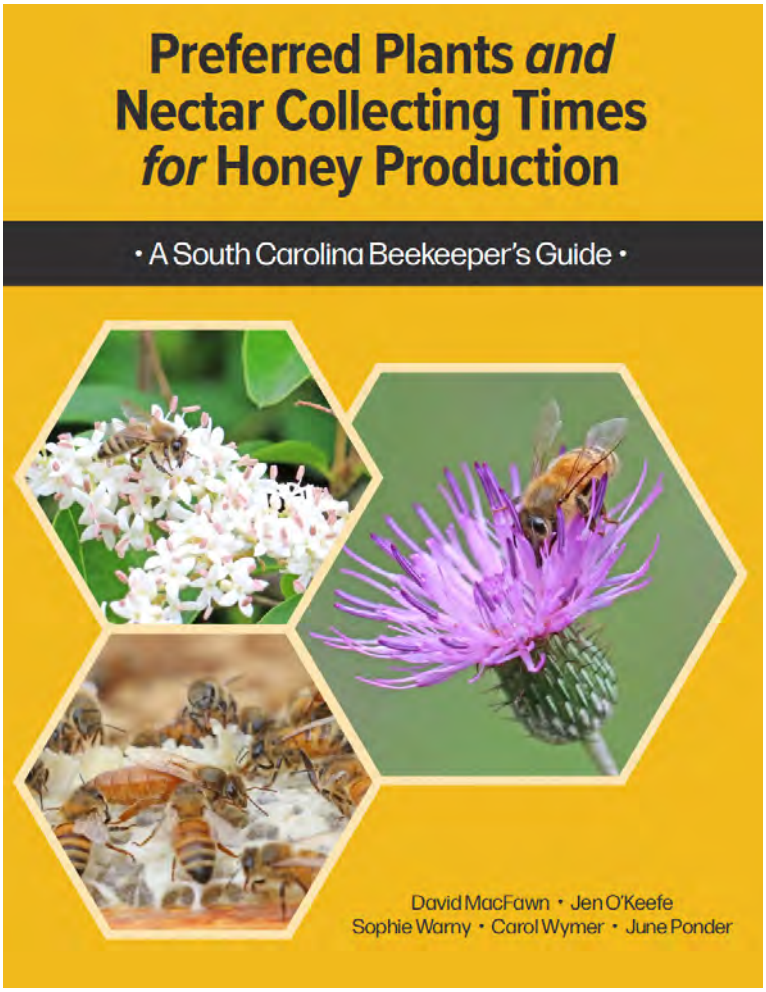
Palynology

Slimani, H., **Warny, S.**, Hassani, A.E., Hssaida, T. and Jba, H. (editors), 2025. *57th Annual Meeting AASP-The Palynological Society. Book of Abstracts*. Documents de l'Institut Scientifique, N° 38 - 2025.

MacFawn, D., O'Keefe, J.M.K., **Warny, S.**, Wymer, C. and Ponder, J.R., 2025. *Preferred Plants and Nectar Collecting Times for Honey Production*. Clemson Extension Publishing.

Published books

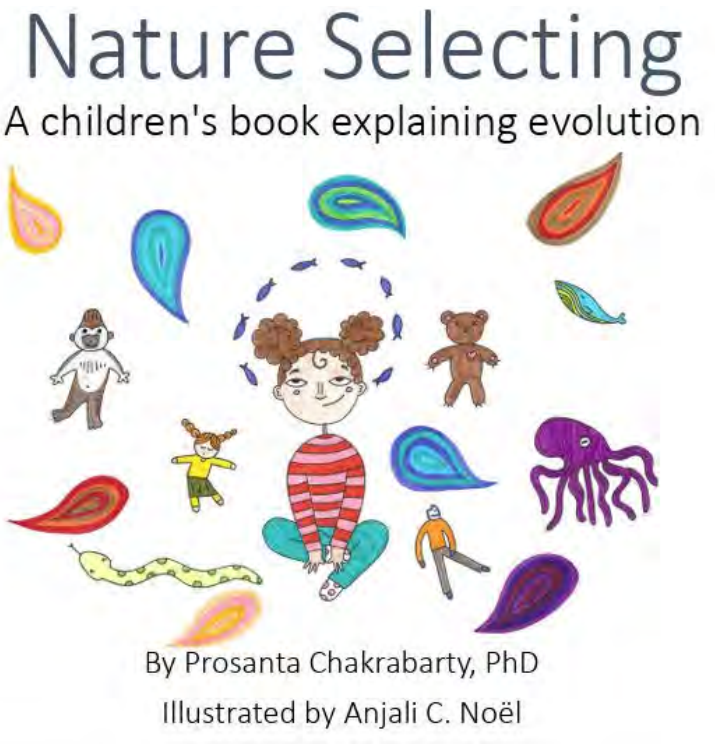
Preferred Plants and Nectar Collecting Times for Honey Production addresses three important questions for South Carolina beekeepers (although many of these data are applicable to the Southern states) – which plants are bees in South Carolina using for nectar-foraging, when do these plants bloom, and how can understanding nectar foraging habits inform beekeepers as they work to gather specific types of premium honey? In 2021, the South Carolina Beekeeper's Association, led by David MacFawn, designed and implemented a statewide pollen study led by Warny and O'Keefe. This three-year-long palynological analysis, the first in any state in over fifty years, was designed to answer the above questions. Informed by data gathered from 19 apiaries across the state, this book contains the results of that study, including large-scale melissopalynological analyses of collected pollen, weekly dynamics of seasonal nectar flows broken down by ecoregion, and recommendations for how beekeepers can implement this information into yearly honey production planning. As the preeminent reference work for beekeeping in South Carolina, this book will prove valuable to beekeepers and also those interested in becoming beekeepers, and non-beekeepers interested in growing bee-friendly plants alike.



All proceeds will go towards bee conservation efforts, and you can now purchase your copy here : https://www.amazon.com/Preferred-Plants-Nectar-Collecting-Production/dp/1638041679/ref=sr_1_1?crid=38HZSVS0QXIVT&dib=eyJ2IjoiMSJ9.ZIow0Q2mwo4wY1mQH4iPtw.ZbOAoDrtRoQNqIzsiY0GY8w82JYDhiEqf36ZoN7Va7g&dib_tag=se&keywords=Preferred+Plants+and+Nectar+Collecting+Times+for+Honey+Production&qid=1752734848&sprefix=preferred+plants+and+nectar+collecting+times+for+honey+production%2Caps%2C223&sr=8-1

Nature Selecting is a children's book that explains evolution and natural selection for middle school and elementary school age kids. The protagonist 'Nat' is charged with cleaning up her room, which is cluttered with stuffed animals. As she goes through the process of 'selecting', she devises a scheme to help her keep most of them, while still following her mom's guidance to 'just keep the fish toys.'

Curator Chakrabarty explains: "The book was born out of my 2018 TED talk, 'Four Billion Years of Evolution in Six Minutes' that first became a trade book for adults published with MIT Press in 2023, 'Explaining Life Through Evolution.' Some of the folks from TED and MIT Press encouraged me to think about doing a kids' book.



After working on the text, I reached out to some publishers but thought it would be best if the book could be distributed for free: The problem was I needed an illustrator. Luckily my 14-year identical twins are wonderful artists and when I asked one of them, Anjali, for help, she enthusiastically said yes. It took her several months, but I loved watching her follow the text and come up with a drawing for each page. I think her drawings really bring life to the story. After getting comments from education experts, I'm proud to have it published it as a Special Publication of the LSU MNS." And it is now free to download from our website: https://www.lsu.edu/mns/news-and-publications/chakrabarty_evolution.pdf

Suyin Ting, Lorene Smith, Connor White, and Irene Martí Gil are the co-editors of this publication. **Vertebrate Fossils of Louisiana** offers a comprehensive overview of the state's rich fossil record, shedding light on the ancient ecosystems that once thrived in the region. Through a series of expertly curated chapters, the book explores the diverse array of vertebrate fossils discovered across Louisiana, ranging from prehistoric marine reptiles and giant mammals to ancient fish and amphibians.

Contributions from leading paleontologists and researchers provide detailed analyses of fossil specimens, offering insights into their ecological significance and evolutionary context. The volume also highlights the importance of Louisiana's unique geological formations in preserving these remarkable remains. With an emphasis on recent discoveries and advances in fossil research, Vertebrate Fossils of Louisiana serves as an essential resource for scholars, students, and enthusiasts interested in the region's paleontological heritage.

Outreach

AAD: Nature in Verse - November 11

Art After Dark (AAD) Participants explored the beauty and importance of the natural world — with a special focus on wolves and conservation — during this art and science event. LSU Professor and Creative Writing Director Dr. Adam Clay approached the evening's theme through poetry, leading an interactive workshop inspired by C. Dungy's "Trophic Cascade." Amy Shutt, founder of The Canid Project, presented the organization's conservation efforts focused on protecting wild canid populations, including the critically endangered red wolf, once native to Louisiana. The East Baton Rouge Parish Library also introduced its upcoming One Book One Community 2026 selection, *You Are Here*, encouraging readers to further explore the relationship between people and the natural world through literature. The hands-on portion included an immersive poetry session in the museum's exhibit spaces, where participants crafted and shared original works celebrating humanity's connection to nature.

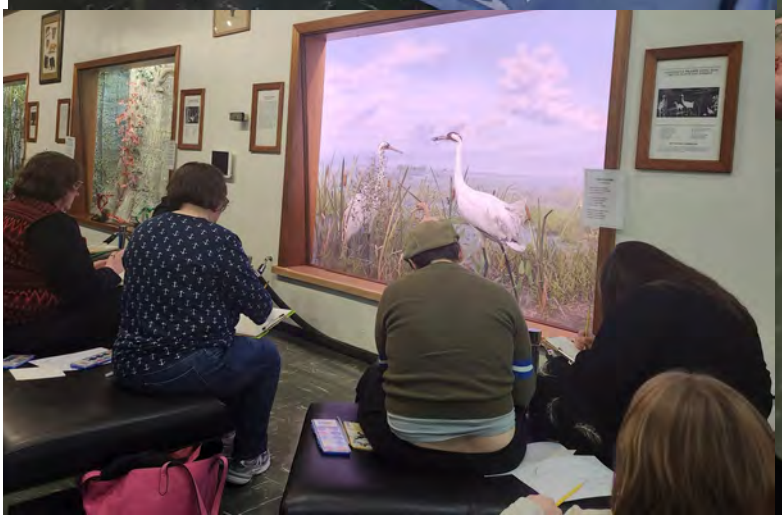
The evening concluded with the presentation of the LSUMNS Naturally Talented Awards, honoring local artists and creators whose work promotes environmental awareness and appreciation for nature. Special thanks to the event's partners and sponsors, particularly the LSU Family Council, for making the event possible.

Claiborne Senior Living - November 13

The LSU Museum of Natural Science had a wonderful time visiting The Claiborne at Baton Rouge Senior Living. Our PhD student Amanda Harvey (Mason Lab) shared specimens, stories, and smiles while engaging residents with hands-on learning about Louisiana's incredible natural history. We're grateful for the warm welcome and the chance to bring museum experiences beyond our walls!

AAD: Brushstrokes of Flight and Hope. Celebrating the Whooping Crane - December 4

Our December session of the Art After Dark (AAD) workshop welcomed guests for an evening celebrating the intersection of art, science, and conservation during Brushstrokes of Flight and Hope: Celebrating the Whooping Crane through Art and Science. Centered on one of North America's most endangered bird species, the event highlighted the resilience and ecological importance of the whooping crane through both scientific discussion and creative expression. We invited the International Crane Foundation, who shared insights into ongoing conservation efforts to protect and restore whooping crane populations, offering attendees a deeper understanding of the challenges facing the species and the collaborative work being done to ensure its survival. Following the presentation, Dr. Callie Smith of the LSU Museum of Art guided participants through a watercolor workshop inspired by the grace and symbolism of the whooping crane in our exhibit, encouraging guests to engage with conservation through artistic practice. Sponsored by the LSU Family Council and LSU Vet Med, the program celebrated the powerful connection between creativity, environmental stewardship, and scientific discovery.



FLAIM - February 7

PhD student Jerry Su of the Brumfield Lab visited the FLAIM Elementary program, where he engaged third-grade students in an interactive discussion about adaptation, evolution, and the relationship between environmental factors and organism traits. Through examples drawn from LSUMNS research, students learned how scientists use evolutionary biology and ecological studies to better understand species and guide conservation efforts. The session encouraged curiosity and critical thinking as students asked thoughtful questions and explored how organisms respond to changing environments. The visit highlighted the importance of science outreach and the role educational programs play in inspiring the next generation of scientists and environmental stewards.

VetMed Open House - February 10

The LSU Museum of Natural Science was proud to participate in the LSU VetMed School Open House, an event that welcomed more than 5,000 visitors from across the community. Throughout the day, museum representatives connected with aspiring veterinarians, students, families, and animal enthusiasts, sharing insights into the museum's research, collections, and educational mission. The event provided an opportunity to highlight the important role natural history collections and scientific research play in understanding biodiversity, animal health, and conservation. The museum's presence was made possible through the dedication of volunteers Brett Kincade of the Mason Lab, Jerry Su of the Brumfield Lab, and Claire Watersmith of the Esselstyn Lab, whose enthusiasm and engagement helped create a welcoming and educational experience for visitors of all ages.

AAD: Conserving Aquatic Life. From Repositories to Gyotaku - February 12

In this Art After Dark workshop, guests enjoyed presentations and discussion led by Dr. Jack Koch, Assistant Director and Professor at the LSU AgCenter Aquatic Germplasm and Genetic Resources Center, alongside Lafayette artist Susan David, whose perspectives helped illuminate the intersection of scientific research and artistic practice. The program explored the importance of preserving fish genetic resources and encouraged attendees to consider the broader role conservation plays in protecting biodiversity. Participants also engaged with the traditional Japanese art form of gyotaku, using artistic techniques inspired by fish printing to connect scientific observation with creative expression. The evening fostered curiosity, collaboration, and meaningful dialogue, continuing the Art After Dark series' mission of bringing together diverse perspectives through art and science.

Sixth Grade Day - February 25, March 3, March 5

In the Spring, we welcomed hundreds of Baton Rouge students to campus as part of LSU's 6th Grade Day, offering young learners an engaging introduction to science, biodiversity, and museum exploration. Throughout the day, students participated in interactive activities designed to spark curiosity about the natural world, including a scavenger hunt through the museum's exhibits and wildlife trivia challenges that tested their knowledge of animals and ecosystems. The event emphasized hands-on learning and encouraged students to explore scientific concepts through observation, teamwork, and discovery. The museum was also honored to receive a visit from LSU President Wade Rousse, whose support for educational outreach and student engagement reflects the university's commitment to inspiring future generations of learners. Thanks to the efforts of teachers, chaperones, and LSU volunteers, the program created a memorable experience that fostered enthusiasm for science and exploration among participating students.

Master Naturalist Workshop - March 19

The LSU Museum of Natural Science welcomed the Master Naturalists of Baton Rouge for an educational workshop exploring the museum's history, research mission, and scientific collections. Following a tour of the museum's exhibits, participants were invited behind the scenes for a closer look at the work carried out by graduate students and collection managers, who shared insights into the research, preservation, and care of the museum's extensive collections. The program highlighted the vital role natural history collections play in advancing scientific understanding and conservation while offering attendees a deeper appreciation for the ongoing work that supports biodiversity research and public education.

LSU Museum of Natural Science

Special Saturdays 2025-2026

Life in Balance: Exploring the Diverse Ecosystems of the World

Special Saturdays is a free STEM program for children aged 5 to 10. Through expert talks and hands-on activities, this series explores ecosystems around the world, showcasing the diversity of life and the unique ways organisms adapt to their habitats. Come to learn how ecosystems work, why they matter, and how all living things are connected!

Fall 2025

August 23 - Freshwater Biomes
Dan Sinopoli

September 27 - Wetlands
George Lambert

October 18 - Marine Environments
Daniel Geldof

December 6 - Tropical Forests
Dr. Laura Lagomarsino's Lab and Diego Cueva

Spring 2026

January 24 - Tundra
Dr. Sophie Warny

February 28 - Grasslands
Dr. Anita Simha

March 28 - Urban and Suburban Ecosystems
Dr. Christine Lattin

April 25 - Deserts
Quinn McCallum

May 16 - Temperate Forests
TBD

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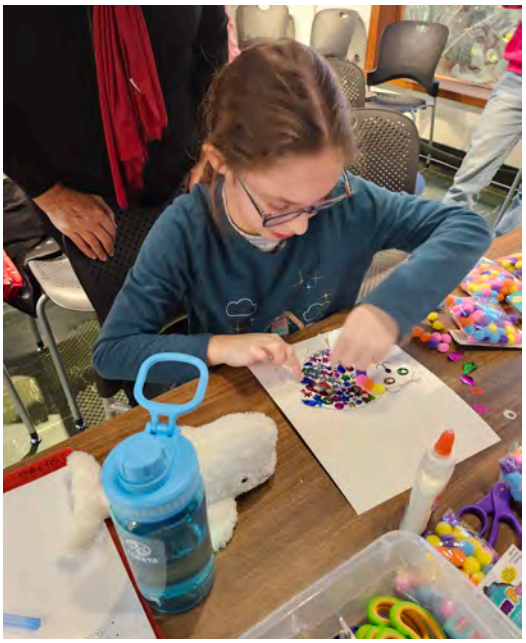
IN LOUISIANA FOR THE WORLD

"Tropical Rainforest" - December 4

We hosted an engaging Special Saturday program focused on tropical rainforest ecosystems, offering an in-depth look at one of the most biodiverse habitats on Earth. Guests explored the extraordinary variety of plant and animal life found in tropical forests while learning how scientists study and document these complex ecosystems through research conducted at LSU. The session featured PhD Candidates Laymon Ball and Diego Paredes Burneo of the LSU LagoLab and Shirley C. Tucker Herbarium, who guided participants through the ecological importance of rainforests and the scientific methods used to understand them. A hands-on activity focused on seed dispersal in tropical environments, helping attendees visualize how plants reproduce and spread across dense forest landscapes.

"Tundra" - January 31



Kike Neyra, PhD student in Warny's Lab, transported families into the icy world of the tundra, where science, creativity, and discovery came together in an engaging, hands-on experience. Participants explored this extreme ecosystem while learning about palynology and how these microscopic clues help scientists reconstruct past and present environments. The program combined scientific inquiry with imaginative exploration, including a creative polar bear craft activity that sparked curiosity about adaptation and Arctic life. After learning that polar bear fur is actually transparent and appears white due to the way light reflects through it, participants reimagined the Arctic landscape through art, envisioning a vibrant, rainbow-colored world where polar bears take on unexpected hues and textures. The result was a lively blend of education and imagination, offering a memorable introduction to the science of cold-climate ecosystems.

"Grasslands" - February 28

In our Februrary session of Special Saturdays, we focused on the rich biodiversity and ecological importance of grassland ecosystems. Guests heard presentations from Dr. Gaurav S. Kandlikar and PhD student Rachana Rao of the LSU Department of Biological Sciences, who shared current research and insights into the role grasslands play in supporting wildlife, maintaining ecosystem balance, and responding to environmental change. Through discussion of biodiversity, conservation challenges, and ongoing scientific studies, the program highlighted the complexity and significance of these often-overlooked habitats. Attendees actively participated throughout the event, contributing thoughtful questions and engaging in conversations about the future of grassland conservation and ecological research.

"Urban and Suburban Ecosystems" - March 28

We explored the contrasts between urban and suburban environments through an engaging Special Saturday program led by Dr. Christine Lattin. The discussion examined how different living spaces influence animal behavior, decision-making, and daily survival strategies, highlighting the ways both wildlife and humans adapt to changing environments. Participants gained new perspectives on how even subtle shifts in surroundings can significantly affect ecological interactions and behavioral responses. The program also featured an interactive food neophobia activity designed by Dr. Lattin, in which attendees sampled both familiar and unfamiliar foods to better understand how novelty influences dietary choices and risk-taking behavior. The hands-on exercise added a playful and thought-provoking dimension to the session, reinforcing the scientific concepts discussed. Overall, the event offered an insightful blend of behavioral ecology and experiential learning, encouraging participants to reconsider the complexity of everyday environments.

"Deserts" - April 22

Our visitors explored the fascinating ecology of desert ecosystems through an engaging educational program. PhD candidate Quinn McCallum of the Mason Lab served as guest speaker, guiding participants through the remarkable adaptations that allow plants and animals to survive in some of the harshest environments on Earth. The session highlighted key survival strategies, including water conservation, temperature regulation, and behavioral and physiological adaptations that enable life to persist under extreme desert conditions. Then we engaged in active learning through a hands-on art activity, creating camel crafts using our handprints. This creative exercise provided a memorable connection to the day's scientific themes while encouraging reflection on the unique traits of desert-dwelling species.

"Temperate Forests" - March 28

The LSU Museum of Natural Science concluded its 2025–2026 Special Saturday series with a final program exploring the biodiversity and ecological significance of temperate forest ecosystems. Participants were guided through the complexity of these habitats alongside PhD candidate David Vander Pluym, gaining insight into how temperate forests support diverse wildlife communities, regulate climate systems, and serve as key sites for ongoing ecological research. From canopy to forest floor, the session highlighted the intricate relationships that sustain these environments and the scientific importance of understanding their dynamics. As the concluding event of the academic year, the program also celebrated the enthusiasm and engagement of participants who attended throughout the Special Saturday series. The museum expressed gratitude for the community's continued curiosity and support, emphasizing the role of public education in fostering scientific literacy and appreciation for the natural world. The series will return next season with new opportunities for hands-on learning, discovery, and exploration.

Spring 2026
Museum Seminar Schedule

Seminars begin at **3:30 PM** Central Time in the main gallery of Foster Hall, unless otherwise noted.

January 30	**Luca Micheli,** LSU Museum of Natural Science *Travelogue: The treason of the Solimões River in Amazonas, Brazil.* **Quinn McCallum,** LSU Museum of Natural Science *Travelogue: Polylepis forests of Arequipa department, Peru.*
February 6	**Dr. Erik Johnson,** Louisiana State University *Understanding habitat, migration, and climate stressors on Prothonotary Warblers.*
February 13	**Dr. Emily Kane,** University of Louisiana at Lafayette *Lessons from fish: insights from studies of form and function.*
February 20	**Dr. Maria Isabel Loza,** Louisiana State University *TBD*
February 27	**Dr. Bryan McLean**, University of North Carolina Greensboro *Seasonal shrinkage and shrinking seasons: using museum collections to explore phenotypic plasticity in small mammals.*
March 6	**Dr. Alex Gunderson,** Tulane University *Heat, heavy metals, and sperm: plastic and evolutionary responses to global change.*
March 13	**No Seminar - Spring Break**
March 20	**Dr. Jacob Cooper,** University of Nebraska at Kearney *From the Pine Ridge to the Albertine Rift: case studies on biogeographic dynamics in birds Ecoevolutionary dynamics of diversification across biogeographic breaks.*
March 27	**Dr. Daniel Powell,** Louisiana State University *Reconciling evidence of reproductive barriers and gene flow in Northern swordtail fishes.*
April 3	**No Seminar - Good Friday Holiday**
April 10	**Dr. Jordan Karubian**, Tulane University *TBD*
April 17	**Dr. Liliana Dávalos,** Stony Brook University *Aging shrews and long-lived bats, or how biodiversity pushes the limits of mammalian lifespan.*
April 24	**Dr. Katherin Eaton,** Louisiana State University *Understanding biological responses to environmental change across time scales.*
May 1	**Dr. Gonzalo Giribet,** Harvard University *A tale of velvet worms: from species discovery to genomics.*

LSU | Museum of Natural Science

For further information, contact Sara Velasquez-Restrepo svela12@lsu.edu

LSU Museum of Natural Science
LSU Foster Hall
19 Dalrymple Drive, Baton Rouge, 70803
Hours of Operation:
M-Th: 8:00 to 4:00
F: 8:00 to 2:30

Editing by Irene Marti Gil (imart23@lsu.edu)