

# Museum Quarterly

LSU Museum of Natural Science

February 2009

Volume 27, Issue 1

## Museum of Natural Science Director and Curators

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Jr., Professor, and  
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Resources*

**Christopher C. Austin**  
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**Robb T.  
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**Prosanta Chakrabarty**  
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**Mark S. Hafner**  
*Alumni Professor and  
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Mammals*

**James V. Remsen**  
*John Stauffer McIlhenny  
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Curator of Birds*

**Rebecca Saunders**  
*Curator of  
Archaeology*

**Judith A.  
Schiebout**  
*Curator of  
Vertebrate  
Paleontology*

**Sophie Warny**  
*Assistant Professor of  
Palynology and Curator of  
Education*

## *Letter from the Director...*

### **A Golden Era**



Like an athletic team, the Museum has glory years and building years when it comes to graduate student performance. Glory years are when our students dominate the national scene by winning awards at meetings, obtaining NSF grants, publishing outstanding papers, and graduating and getting good academic jobs. Building years are when we have a disproportionately large number of new students, who are just learning the academic ropes. During building times, students tend to work anonymously in the field or lab, quietly establishing the foundations for success. Fortunately, building years are not as painful for the Museum as they are for football and basketball teams, because we don't lose anything during those years; we just have less to brag about.

Right now, we are passing a glory year at the Museum. In the last few months **Curt Burney, Matt Carling, Zac Cheviron, Ali Hamilton, Ben Marks,** and **Thomas Valqui** have finished their Ph.D. degrees. All of these students have national and international reputations for outstanding research, and all are going on to good academic jobs. Curt, a major in the U.S. Air Force, is moving to a postdoctoral position in Texas before assuming a professorial position at the Air Force Academy. Matt is a postdoc at Cornell and will soon move to an assistant professorship at the University of Wyoming. Zac is headed to a postdoc at UCLA, and like Matt will soon be a professor. Ali (the Museum's 2008 "Outstanding Graduate Student") is also headed to a postdoc at UCLA. Ben has taken a job at Texas A&M as the collection manager while he writes up his papers on African bird biogeography. And Thomas returns to Peru, where he is the director of a major wildlife research institution, CORBIDI: Center for Ornithology and Biodiversity.

We will miss these 30+ year-old "kids" and the kudos they have brought to the Museum. But a new group is in the making and our eyes are now on it. This next wave is studying Neotropical ornithology, desert mammalogy, North American vertebrate paleontology, and North American, SE Asian and New Guinean biogeography. Given its good start, we can expect, before too long, a crest as broad and strong as any in the past.

Fred Sheldon

# Ocean Commotion



Left: **Dr. Warny and Heather Jackson** displayed fossils at Ocean Commotion. Attendees were able to see the vertebrae and lower jaw of *Basilosaurus*, an extinct giant whale recovered from Louisiana Eocene sediments.

Ocean Commotion 2008 hosted a series of exhibits provided by LSU researchers and public and private organizations. These exhibits had interactive and/or hands-on, minds-on activities that were appropriate for K-8 students. The primary purpose of the event was to give students the chance to learn about and touch the products of the sea and coast, such as aquatic animals, plants, and miner-

als. Students were able to take home an expanded appreciation of the importance of the aquatic environment and the need to conserve its resources.



Right: At Ocean Commotion, students observed magnified views when using Scope-On-A-Rope.



**Adrienne Lopez** assists students with Scope-On-A-Rope.



The Scope-On-A-Rope Program coordinated by **Adrienne Lopez** at the Museum of Natural Science, also exhibited at Ocean Commotion. The title of the exhibit was Investigating Life Cycles with SOAR, and featured numerous eggs, larvae, and other aquatic “babies”. Students were able to watch a zebrafish embryo developing inside its egg, to see different types of insect larvae up close, and to witness a hydra budding. The Scope-On-A-Rope was also used in two other exhibits led by faculty members in LSU’s Department of Biological Sciences. Dr. Michael Hellberg and his students examined marine invertebrates, and Dr. Fernando Galvez used SOAR to investigate mussels and their larvae.



# Special Saturdays at the MNS

## PALYNOLOGY



Regular patrons of Museum Special Saturday were familiar with **Rebecca Tedford** as the creative and friendly Special Saturday organizer of the past four years. On Saturday, December 6, a group of over 30 children learned that Rebecca is also a scientist - a palynologist to be precise. Rebecca talked to students about her work extracting soil cores from Lake Catahoula in Louisiana to reconstruct the history of the area using pollen grains found therein. The audience got to practice palynology by counting pollen grain replicas (i.e., M&Ms) in order to make inferences about past climates in Louisiana. Unlike most scientists, however, these budding palynologists then proceeded to eat their study samples! They also looked at pollen grains (real ones) under microscopes using LSU's scope-on-a-rope, made pollen grain ornaments, and colored and cut out pollen-plant matching cards that can be used as a memory game. LSU hosts some extensive pollen collections that are part of CENEX (Center for Excellence in Palynology). For details or for Ph.D. opportunities, contact Dr. **Sophie Warny**, Assistant Professor of Palynology and Curator of Education at the **MNS**.

## ARCHAEOLOGY

The museum was crowded with almost 40 future archaeologists on Archaeology Special Saturday, October 4, 2008. Students listened to **Robert Mann**, Regional Archaeologist, describe the history of native people in Louisiana. Students were able to reconstruct broken pottery, look at real artifacts with the assistance of Alice Dennis and LSU's scope-on-a-rope, create pots of their own, and use a pump drill and hand tools to create darts and bracelets. The Museum's **Dr. Rebecca Saunders** led a field trip to LSU's Indian Mounds, where children were able to learn about the basket by basket construction of these notable features before running up and down their sides. Rob Mann and **Adrienne Lopez** graciously volunteered for a repeat Archaeology Day hosted for 100 children from the LSU laboratory school on October 20.

We relied on numerous volunteers to make these events run smoothly. Special thanks to Rachael Tittle, Dana Thomas, Adriana Bravo, **Nathan Jackson**, Rae Crandall, and Ariele Baker for making these events possible.



**Top Left:** A budding palynologist displays here stephanoporate (has multiple pores) pollen grain ornament.

**Bottom Right:** Students used the coil method to create pottery.





## Creek Fossils

Volunteer **Kathleen McDonald** and Research Associate **Dr. Suyin Ting** (Vertebrate Paleontology Collections Manager) enjoy their “day at the beach” while fossil-hunting at an undisclosed location. Suyin is holding a fossilized horse tooth which is about 5 million years old. The photographer is Research Associate **Lorene Smith** (Microfossils & Invertebrate Paleontology Collections Manager).

## Two of MNS’s Own Featured in Faculty of 1000!

Harvard professor Jonathan Losos, confirmed LSUMNS Research Associate, **Elizabeth Derryberry’s**, paper as a new finding and technological advance while recommending it as a must read on Faculty of 1000’s rating scale. Losos said, “This study offers rare-if not the first- direct evidence of how changes in signal structure over contemporary time scales might lead to the formation of a behavioral barrier to gene flow between populations.”



**White-Crowned Sparrow**

Nico M. Van Straalen, called LSUMNS lab alumnus **Zac A. Cheviron’s** paper a new finding and rated it as a recommended read. Straalen said, “This paper on physiological adaptation of birds to high altitude documents a pattern of changes in gene expression that is remarkably similar to what has been observed in cold-adapted fish.”

View these papers at [www.f1000biology.com](http://www.f1000biology.com)

# LSU Museum of Natural Science Record of Past Seminars – Fall 2008

- August 29 – **Graduate students and museum associates**  
Dept. of Biological Sciences & Museum of Natural Science, Louisiana State University  
“Tales from the field: pictured stories from around the world”
- September 5 – **cancelled (Hurricane Gustav)**  
September 12 – **cancelled (Hurricane Ike)**  
September 19 – **Dr. Robert Diehl**  
Department of Biological Sciences and Migratory Bird Research Group, University of Southern Mississippi  
“Radar biology: the state of the art”
- September 26 – **Melissa DeBiase**  
Department of Biological Sciences, Louisiana State University  
“Phylogeography of the branching vase sponge, *Callyspongia vaginalis*, through out Florida and the Caribbean: genetic structure, population history, and possible cryptic speciation.”
- October 3 – **Carlos Prada**  
Department of Biological Sciences, Louisiana State University  
“Phenotypic and genetic variability in the octocoral *Eunicea flexuosa*.”
- October 10 – **César Sanchez**  
Dept. of Biological Sciences & Museum of Natural Science, Louisiana State University  
“Effects of geographic isolation and habitat structure on song and morphology of five species of Nightingale-Thrushes (*Catharus*).”
- October 17 – **Dr. Laurie C. Anderson**  
Department of Geology and Geophysics, Louisiana State University  
“Evolutionary origins of morphologic constraint and novel conchologic growth patterns in tropical American Corbulid bivalves.”
- October 24 – **Dr. Mac H. Alford**  
Department of Biological Sciences, University of Southern Mississippi  
“On the origin of willows and poplars: phylogeny and character evolution in the Flacourtiaceae/Salicaceae complex.”
- October 31 – **Dr. Margaret Koopman**  
Department of Biological Sciences, Louisiana State University  
“Diversification and the maintenance of species boundaries in the Hibiscus tribe (Malvaceae) on Madagascar.”
- November 7 – **Gustavo Bravo**  
Dept. of Biological Sciences & Museum of Natural Science, Louisiana State University  
“Ecological and phylogenetic effects in the phenotypic evolution of the antbirds (Aves, *Thamnophilidae*).”
- November 14 – **Adam Freedman**  
Department of Ecology and Evolutionary Biology, University of California, Los Angeles  
“Evolution Along the African Rainforest-Savanna Gradient: Past, Present, and Future.”
- November 21 – **10th Annual Biology Graduate Student Symposium (no seminar)**  
November 28 – **Thanksgiving break (no seminar)**  
December 5 – **Dr. Charles D. Bell**  
Department of Biological Sciences, University of New Orleans  
“Evolution of an Alpine ecosystem.”

*For further information, contact Verity Mathis: [vmathi1\[at\]lsu.edu](mailto:vmathi1[at]lsu.edu)*





Two hands-on sessions were conducted by the Museum of Natural Science for over sixty middle school girls on November 16, 2008, as part of the *Sally Ride Science Festival*. The title of these sessions was “Exploring Aquatic Ecosystems”. Girls examined the macro- and micro-life of the LSU lake system and learned about invertebrate indicators of poor water quality, aquatic food webs, and protozoan behavior and classification. The Scope-On-A-Rope was a key tool for examining all specimens. Students appreciated how the SOAR allowed them to see the unseen!



Top: Female astronaut Wendy Lawrence shared her experience with the school girls.  
 Middle Right: Alice Dennis (arms spread wide) is describing the size of sharks whose teeth are on display.  
 Bottom right: Zoe Bart describing a grouper head to attendees. This grouper is one of the specimens that was on display for this festival. All specimens were on loan from MNS’s new ichthyology curator, Dr. **Prosanta Chakrabarty**.  
 Bottom middle: Dr. **Sophie Warny** mentoring one of the U-High volunteers (Cathryn Coulter) who helped at this event. These young scientists helped share data about the collections with the school girls visiting that day.  
 Bottom Left: Manon Bart, U-High volunteer, describing various fossil teeth.



# Congratulations!!!



Congratulations to all of these students who have recently finished their Ph.D. degrees!



Top Row (left to right):  
**Zac Cheviron,**  
**Ben Marks,**  
**Thomas Valqui.**

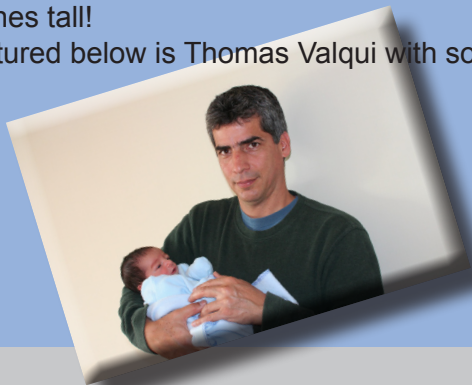
Bottom Row (left to right):  
**Curt Burney,**  
**Matt Carling,**  
**Ali Hamilton.**

Franco Valqui

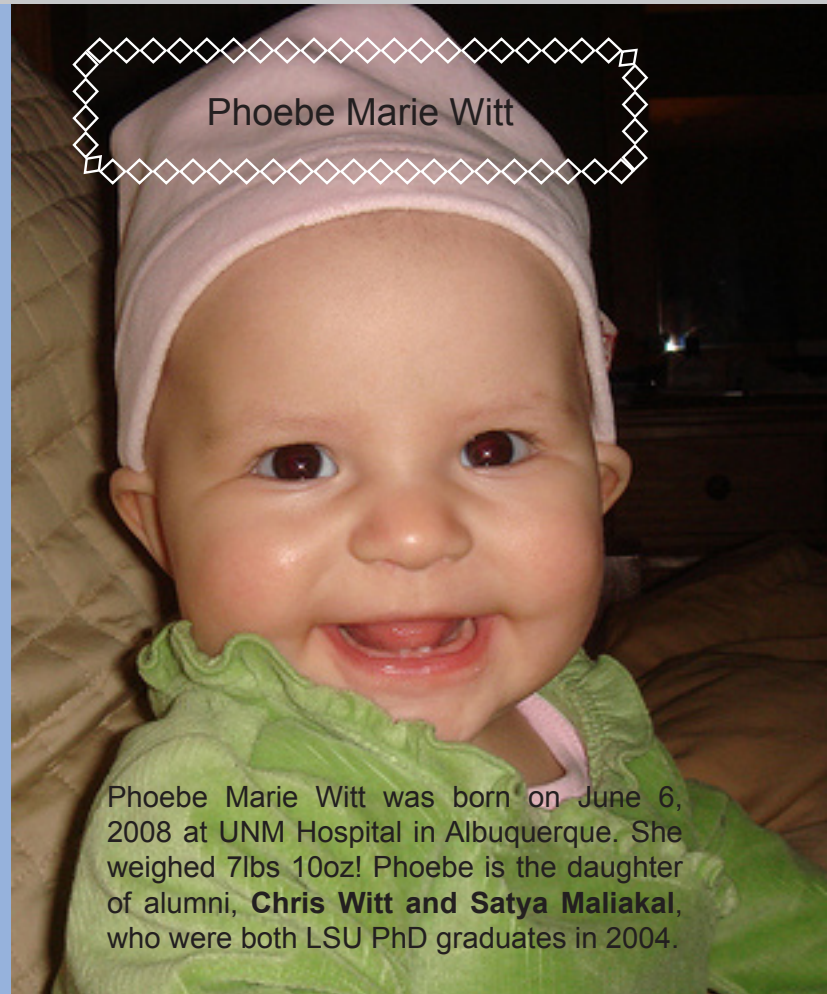


Congratulations to graduate student, **Thomas Valqui**, on the birth of new baby Franco Valqui. He was born to mother Veronica Vines on November 17, 2008. He weighed 6lbs 2.76oz and was 19.3 inches tall!

Pictured below is Thomas Valqui with son Franco.



Phoebe Marie Witt



Phoebe Marie Witt was born on June 6, 2008 at UNM Hospital in Albuquerque. She weighed 7lbs 10oz! Phoebe is the daughter of alumni, **Chris Witt** and **Satya Maliakal**, who were both LSU PhD graduates in 2004.



# Francis C. James



LSU Museum of Natural Science would like to recognize a very special and unique alumna. **Francis C. James**, M.S. 1955, was one of the first women to be prominent in ornithology. She was also one of the first women to be president of the American Ornithologists' Union.

**Congratulations to Fran on all of her outstanding accomplishments!**

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