

# Valerie A. Derouen

## Curriculum Vitae

LSU Museum of Natural Science  
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### Education

- 2011 – 2015: M.N.S. in Biological Sciences (4.0). Louisiana State University, Baton Rouge, LA. Advised by Dr. Prosanta Chakrabarty, Museum of Natural Science. Minor: Education.
- 2007 – 2011: B.S. in Biological Sciences (3.6) Louisiana State University, Baton Rouge, LA. Minor: Sociology.

### Employment

- 2015 – present: LSU Museum of Natural Science Outreach Coordinator. Manage outreach activities for the LSU Museum of Natural Science. Maintain the museum website and social media accounts. Produce the museum's quarterly newsletter. Develop science education activities and exhibits. Conduct outreach activities. Write grants to support the museum's outreach activities and exhibits. Maintain the inter-institutional specimen loan system. Perform general office maintenance.
- 2012 – 2014: EnvironMentors Program Coordinator. Coordinate and plan activities including weekly meetings for mentors and students, environmental lessons, and educational field trips for the program – which is geared towards at-risk high school students interested in science. Recruit, train, and pair mentors with selected students. Provide college access opportunities. Create a monthly newsletter. Update and maintain program website. Maintain budgets and inventories. Organize fundraisers and write grants. Update policies, procedures, and student/mentor records as necessary for incoming coordinators.

### Research Appointments

- 2011 – 2014: Research Assistant, LSU Museum of Natural Science, Baton Rouge, LA. Worked for Dr. Prosanta Chakrabarty, curator of Ichthyology, on sequencing multiple genes for various fishes.
- 2007 – 2011: Research Assistant, LSU Museum of Natural Science, Baton Rouge, LA. Worked for Dr. Mark Hafner, curator of mammals, on sequencing the CO1 Gene for pocket gophers (*Thomomys spp.*) and their lice (*Geomydoecus spp.* and *Thomomydoecus spp.*)
- Summer 2009: Research Experience for Undergraduates, student at Sam Houston State University, Texas. Worked for Dr. Matthew P. Rowe on the mating rituals of the bark scorpion (*Centruroides vittatus*) and differences in male and

female venom.

## **Scholarships**

- 2012: Sea Grant Scholar (\$18,000/year)  
2009: National Science Foundation, Research Experience for Undergraduates Scholarship at Sam Houston State University (\$4000)  
2007-2011: Taylor Opportunity Program for Students (TOPS Scholarship)  
2007-2011: National Postal Mail Handlers Union Arthur S. Vallone Scholarship (\$1000/year)  
2007-2011: Drexel Society scholarship (\$350/year)  
2007: Albert P. Joseph Memorial Scholarship (\$250)  
2007: Friendly Neighbors Scholarship (\$100)  
2007: Louisiana Freshman Merit Award (\$1000)  
2007: Louisiana State University's Summer Scholars Program Scholarship (Paid for tuition, room and board, and meal plan)

## **Awards and Honors**

- 2014: Coalition to Restore Coastal Louisiana Coastal Stewardship Award - EnvironMentors  
2013: National EnvironMentors Chapter of the Year Award  
2009-2011: Honored at Black Scholars Awards program for GPA over 3.5  
2008: Honored at Black Scholars Awards program for 4.0 GPA  
2007: Valedictorian of Catholic High School, New Iberia, Louisiana, Class of 2007

## **Grants**

- 2012: NSF Graduate Research Fellowship Program. "Elucidating the Marine Invasions of Batfishes." \$42,000 per year up to three years.  
2012: Louisiana Environmental Education Commission Research Grant. "Assessment of Inquiry-based Learning tools to improve environmental literacy among Louisiana's underserved high school students." \$1000

## **Research Skills/Experience**

- (1) Extracted, Amplified (PCR) and Sequenced DNA from Lice, Pocket Gophers and various fish species -  
Extractions were conducted using Qiagen Kits; amplification via the Polymerase Chain Reaction and primer sequences for various genes; carried out gel electrophoresis and DNA cycle sequencing, and Sanger sequencing conducted on 3100 sequencer.
- (2) Constructed phylogenetic trees using Maximum likelihood and Bayesian Methods
- (3) Performed divergence time estimation analyses using BEAST.
- (4) Mounted louse specimens on slides
- (5) Trapped small mammals (e.g. pocket gophers, grasshopper mice, pocket mice, kangaroo rats) in the field in Mexico (Chihuahua and Durango) with Dr. Mark Hafner, and in Arizona (Sonoran Desert) with Dr. Matthew Rowe and Ashlee Rowe.
- (6) Collected scorpions in east and west Texas at the Davis Mountains in Jeff Davis County, Elephant Mountain in Brewster County, and three localities in Walker County – Blue

- Lagoon, The Center for Biological Field Studies, and the University Camp of Sam Houston State University, and extracted their venom for HPLC (High Performance Liquid Chromatography) analysis
- (7) Participated in captive colony care of lab mice at Sam Houston State University, Huntsville, Texas

### Peer-Reviewed Publications

Derouen V., Ludt W.B., Ho H.C., Chakrabarty P., (2015) Examining Evolutionary Relationships and Shifts in Depth Preferences in Batfishes (Lophiiformes: Ogocephalidae). *Molecular Phylogenetics and Evolution* 84: 27-33.

### Books

Chakrabarty, P., Warny, S., **Derouen, V.** (2014) Making a Big Splash With Louisiana Fishes. Special Publication of the Occasional Papers of the LSUMNS. ISBN:978-4951-2077-0

### Professional Presentations

Derouen, V.A., Ludt, W.B., Ho, H.C., Chakrabarty, P (2014) *Phylogeny and Divergence Time Estimation of Batfishes (Lophiiformes: Ogocephalidae)*. Joint Meeting of Ichthyologists and Herpetologists. Chattanooga, TN, July 31.

Peterson, S.N., **Derouen, V.A.**, Powers, J. (2013): *EnvironMentors: mentoring underrepresented high school students in STEM learning*. Coastal and Estuarine Research Federation Biannual conference. November 7.

Soule, J, **Derouen, V.A.**, (2013) *Exploring Environmental Mentoring*. EPA Environmental Education in Action Webinar. August 21.

Derouen, V.A., Ludt, W.B., Ho, H.C., Chakrabarty, P (2013) *Phylogeny and Divergence Time Estimation of Batfishes (Lophiiformes: Ogocephalidae)*. Joint Meeting of Ichthyologists and Herpetologists. Albuquerque, NM, July 12.

Derouen V.A. (2009) *Sex, Drugs and Centruroides: Courtship, Mating, and Venom Use in Bark Scorpions*. Research Experience for Undergraduates (REU) Symposium at Sam Houston State University, July 25.

### Service

- 2014: Spoke to middle school girls about pursuing STEM careers and presented fish specimens, East Feliciana Middle School, November 13
- 2014: Volunteered at *Wild Things*, U.S. Fish and Wildlife Service, October 18
- 2014: Volunteered at *Zoo Zoom*, BREC's Baton Rouge Zoo, August 23
- 2014: Served as graduate mentor for *BIOS: Biology Intensive Orientation for Students* program, August
- 2014: Spoke and presented specimens to students at Brusly Elementary School about fish, March 13
- 2013: Volunteered at *Zoo Zoom*, BREC's Baton Rouge Zoo, August 24

- 2013: 1 of 8 members to serve on Working Group for reorganizing the National EnvironMentors Operational Model, June – December
- 2013: Served as graduate mentor for *BIOS: Biology Intensive Orientation for Students* program, August
- 2013: Volunteered at Louisiana Art and Science Museum with BREC's Baton Rouge Zoo, March 3
- 2013: Aided the Office of Law Enforcement, for the Louisiana Department of Wildlife and Fisheries by sequencing DNA from contraband fish specimens to confirm their identity
- 2012: Volunteered at Ocean Commotion, October 30
- 2012: Volunteered at *Zoo Zoom*, BREC's Baton Rouge Zoo, August 25
- 2012 – Present: Member of the Diversity Action Team at LSU
- 2012: Volunteered with LSYOU Program – Toured around Museum of Natural Science
- 2012: Presented fish at Zachary Elementary School Summer School Program, June 11
- 2012: Volunteered at LSU Museum of Natural Science's *Special Saturday*, February 25 – Flashing Fishes
- 2011 – Present: Volunteer at BREC's Baton Rouge Zoo (Activities include: *Zoo & Me*, *Zoo Mobile*, *Zoo Camp*, Education Animal Nursery, *Elephant Program*, and *Edzoocation* programs)  
 Programs Presented: *Amazing Adaptations*, *Skullology*, *Animal Discovery*, *Food Chains & Food Webs*
- 2011: Volunteered at LSU Museum of Natural Science's *Special Saturday*, December 10 – Microscopic Journey
- 2011: Volunteered at *Boo at the Zoo*, BREC's Baton Rouge Zoo, October 15
- 2011: Volunteered at Ocean Commotion, Louisiana State University, November 3
- 2011 – Present: Train undergraduate students on molecular research techniques
- 2011: Volunteered at *NanoDay*, Louisiana Art and Science Museum, April 2  
 Carbon Nanotube Exhibit
- 2008 – Present: Member of the National Society for Collegiate Scholars
- 2008 – Present: Member of Phi Eta Sigma National Honor Society
- 2008: Attended Women's Leadership Conference, Louisiana State University, April 12
- 2004 – 2007: Participated and Placed in Louisiana State Science Fair, Louisiana State University

### **Popular Articles Authored**

Chakrabarty, P., Derouen, V.A. (2012) [Review of] *Fishes: The Animal Answer Guide*  
 Do Fish Sleep? Fascinating Answers to Questions About Fishes *Copeia* 2012 (2): 361

Derouen, V.A. 2011. The undergrad research experience. *LSU Museum Quarterly* (LSU Museum of Natural Science) 29 (1): 15-16. Available on-line at  
<http://appl003.lsu.edu/natsci/lmns.nsf/SContent/Newsletters?OpenDocument>

Derouen, V.A. 2008. Jumping into unfamiliar territory. *LSU Museum Quarterly* (LSU Museum of Natural Science) 26 (3): 14. Available on-line at [http://appl003.lsu.edu/natsci/lmsns.nsf/\\$Content/Newsletters/\\$File/November\\_2008.pdf](http://appl003.lsu.edu/natsci/lmsns.nsf/$Content/Newsletters/$File/November_2008.pdf)

### **Professional Societies**

2013 – present: National Science Teachers Association  
2013 – 2015: American Society of Ichthyologists and Herpetologists

### **References**

Dr. Prosanta Chakrabarty; Assistant Professor/Curator of Fishes, Louisiana State University  
Museum of Natural Science, 119 Foster Hall, Baton Rouge, LA 70803-3216  
e-mail: [prosanta@lsu.edu](mailto:prosanta@lsu.edu); phone: 225-578-3079

Dr. Mark S. Hafner; Alumni Professor/Curator of Mammals, Louisiana State University  
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Dr. Christopher D'Elia; Dean of the School of the Coast and Environment, Louisiana State  
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