

Welcome to BIONEWS



Welcome to the 4th edition of *Bionews*, the annual newsletter of the Biology Department

of University of Louisiana at Lafayette. In this edition, we highlight news stories and other important events in the life of the department that occurred in 2015. This is our attempt to keep alumni and friends of the Department informed about the activities of our faculty and students.

This last year has been an outstanding one for the Department. For example, we had two faculty members recognized by the University as eminent scholars. The large increases in enrollment in recent years have resulted in large numbers of students graduating from both the undergraduate and graduate programs. The faculty and graduate students continue their high levels of research productivity. During this period of restricted budgets, we were also fortunate to be able to hire two outstanding new faculty members.

We hope you will find this newsletter informative. If you have any questions or comments on its contents, please direct them to me (Leberg@louisiana.edu). Thank you for your interest and support of biology at the University of Louisiana at Lafayette.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Leberg".

Paul Leberg
Professor and Head

Faculty Spotlights

Two biology faculty members receive Eminent Faculty Awards!

Dr. Paul Klerks and Dr. Pegge Alciatore were among four University faculty members receiving Eminent Faculty Awards in 2015. A Distinguished Professorship Selection Committee, made up of faculty from each college, evaluates nominee and chooses the most deserving candidates each year. The UL Lafayette Foundation presents the awards based on the committee's evaluations. Each award has a \$5,000 stipend.



Dr. Paul Klerks received one of two Distinguished Professor Awards made in 2015. This award recognizes faculty members for their research, teaching effectiveness

, and contributions to their professions and campus life.

Dr. Klerks specializes in ecotoxicology, the study of pollutants in the environment. "His ecotoxicology course is so popular he has to turn away many potential students every time it is offered," noted Dr. Paul Leberg, Professor and Head of UL Lafayette Department of Biology, in a letter nominating him for the award.

Dr. Klerks joined the Department of Biology in 1992. He has been the principal investigator or co-principal investigator for

projects supported by more than \$6 million in research funding from several agencies, including the National Science Foundation, the U.S. Department of Defense and the Environmental Protection Agency. Included in that total is a \$1.02 million grant from the Gulf of Mexico Research Initiative to study the effects of the 2010 Deepwater Horizon oil spill on shrimp and clams.

Dr. Leberg noted that Dr. Klerks is well respected in his field; his research publications have been cited over 1,100 times by others. “Few scientists have done more to demonstrate the importance of understanding how natural selection and other evolutionary phenomena are important in determining the responses of populations to pollutants and environmental change,” he added.

Dr. Klerks was the Assistant Dean of Ray P. Authement College of Sciences from 2011 to 2013. He is chair of the University’s Coastal Research Excellence Strategy Task Force, which will determine the best way for the University to promote coastal and wetland research and education.



Dr. Pegge Alciatore, an Assistant Professor of Biology, was one of two recipients of the Dr. Ray P. Authement Excellence of Teaching Awards. This award is presented for a faculty member’s

commitment to teaching, innovation, and pedagogical scholarship.

Dr. Alciatore consistently receives excellent evaluations from students she has taught. They praise her for more than how well she teaches the material in her courses.

“Many former students indicate that Dr. Alciatore taught them how to study and learn,” wrote Dr. Paul Leberg in a letter nominating her to receive the award.

Dr. Alciatore mentors members of the University’s highly successful Pre-Professional Society. Many of her former students give her credit for helping them prepare for their careers in the medical field.

“It is striking that whenever I enter a local hospital, medical, or dental office, veterinary clinic, or physical therapy practice, and the staff, doctors or nurses learn that I am a faculty member in biology, I am universally told of how important Dr. Alciatore was in their lives,” Leberg noted.

She joined the UL Lafayette faculty in 1982 as an instructor of anatomy and physiology. Since 2009, she has been Assistant Department Head. She also advises students and manages curriculum changes.

Her research interests include effective college teaching methods and accountability practices in higher education. Alciatore is co-principal investigator for a \$1.2 million grant from the National Science Foundation to prepare teachers in STEM areas, such as biology. STEM is an acronym for science, technology, engineering and math education.

(story modified from one originally prepared by University’s Office of Communications and Marketing)

University research on deep-sea corals featured in television documentary

Research on corals conducted at the University of Louisiana at Lafayette is featured in a video recently released by the national Bureau of Ocean Energy Management.

The documentary, “Pathways to the Abyss,” outlines initial findings of a five-year, \$9 million study of underwater canyons off the coasts of Maryland and Virginia. Scientists are researching submarine topography and marine habitats in the Baltimore and Norfolk Canyons for potential offshore energy and mineral exploration.

Researchers from universities, government, and industry are mapping largely unexplored areas, documenting shipwreck locations, and studying samples of fish, corals, and other organisms. The specimens were collected during expeditions in the summers of 2011, 2012, and 2013.



UL Lafayette’s **Dr. Scott France**, a biology professor, and **Esprit Heestand Saucier**, a doctoral student, participated in two of those expeditions.

The focus of their research is “how far corals and their offspring disperse,” Dr. France explains

during one portion of the video. In a recent interview, he described their studies this way: “We are working on the genetics of some of the corals to determine where might these corals be coming from? Can they travel long distances?”

Ms. Saucier, who is working on her dissertation, spent several weeks during the summers of 2012 and 2013 aboard ships in the Atlantic Ocean. She is studying the genetics of bamboo corals, so named because their articulated skeletons resemble stalks of bamboo.

Relatively little is known about the deep-sea corals. In addition to learning what species of bamboo corals live in these canyons, Ms. Saucier wants to know how far bamboo coral larvae can “travel.” Can larvae survive long enough to be carried far distances by ocean currents, to “find” adequate habitat to settle and grow? “We’re interested in seeing if corals that were found in certain canyons are endemic to those canyons,” she said.

Dr. France said he and Saucier found extensive beds of corals, “but there were other exciting finds as well.” One of those discoveries was large fields of chemosynthetic mussels, or those that glean energy from hydrogen sulfide and methane that bubble up through the ocean floor via fissures called seeps or vents. “They are known in various places in the world, but we had no idea that there were these huge fields in these canyons,” he said.

Scientists participating in this five-year project also are analyzing information about ocean currents, temperatures, and chemistry culled from remotely deployed vehicles called landers, which record data while resting on the ocean floor. A comprehensive report from the Bureau of Ocean Energy Management, which will provide insight into geology, oceanography and ecology, is anticipated to be completed in 2016.

Learn more about the “Pathways to the Abyss” at <https://vimeo.com/128444694>.

(story modified from one originally prepared by University’s Office of Communications and Marketing)

Drs. James Nelson and Phyllis Baudoin Griffard join the faculty

We are fortunate to have been able to replace recent retirements with two new faculty members in August 2015.



Dr. James Nelson joined the graduate faculty as an Assistant Professor. He obtained a Ph.D. in Oceanography from Florida State University and conducted postdoctoral research at the

Marine Biological Laboratory in Woods Hole, MA. His research explores the functional role of marine organisms in mediating energy flow, biogeochemical cycles, and community structure in coastal and estuarine ecosystems. During the coming year, he will be setting up his research program and developing courses in fish and ecosystem ecology.



Dr. Phyllis Griffard is the most recent addition to our instructional faculty. She is an alumna of our undergraduate program, and obtained her doctorate in

Curriculum and Instruction from LSU. Prior to returning to Lafayette, she has been on the faculty of several institutions, most recently at the University of Houston-

Downtown. She has research interests in science education and pedagogy. Since arriving at the University, she has taught several of our introductory courses and has worked to expand our internship program. Dr. Griffard is also developing a biology curriculum project involving Usher's syndrome, a common genetic disorder in our region.

Welcome Jimmy and Phyllis!

Research Publications

In 2015, Biology faculty and graduate students reported authorship on over 60 scholarly articles, reports, and chapters. Here is a small sample of this outstanding work. Biology faculty, students, former students, and staff are indicated in bold.

Arakaki, N, WE Schmidt, P. Carbajal & S. Fredericq. First occurrence of *Gracilaria chilensis*, and distribution of *Gracilariopsis lemaneiformis* (Gracilariaceae, Gracilariales) in Peru. *Phytotaxa* 208:175-181

Athrey, NRG, RF Lance, & PL Leberg. Using genealogical mapping and genetic neighborhood sizes to quantify dispersal distances in the Neotropical passerine, the Black-capped Vireo. *PLoS ONE*

Camacho, O, L Mattio, S Draisma, S Fredericq & G Diaz-Pulido. Morphological and molecular assessment of *Sargassum* (Fucales, Phaeophyceae) from Caribbean Colombia, including the proposal of *S. giganteum* sp. nov., *Sargassum schnetteri* comb. nov., and *Sargassum* section *Cladophyllum* sect. nov. *Systematics and Biodiversity* 13:105-130

Castilho, AL, **RT Bauer**; et. al. Lifespan and reproductive dynamics of the commercially important sea bob shrimp *Xiphopenaeus kroyeri* (Penaeoidea): synthesis of a 5-year study. *Journal of Crustacean Biology* 35: 30-40

Cazan, AM & PL Klerks. Physiological effects and reduced tolerance following maternal metal exposure in the live-bearing fish

- Gambusia affinis*. Environmental Toxicology and Chemistry 34: 1337-1344
- Cazan, AM & PL Klerks**. Effects on life history variables and population dynamics following maternal metal exposure in the live-bearing fish *Gambusia affinis*. Ecotoxicology 24: 626-635
- Felder, DL, & R Robles**. Two new species of the genus *Lepidophthalmus* (Decapoda, Axiidea, Callianassidae) from coastal Pacific waters of Central America. Zootaxa 4020:431–452
- Frank, D, **L Deaton**, S Shumway, B Holohan, & E. Ward. Modulation of Pumping Rate by Two Species of Marine Bivalve Molluscs in Response to Neurotransmitters: comparison of in vitro and in vivo results. Comp. Biochem. Physiol. A 185:150-158
- Granados-Cifuentes C, J Neigel, PL Leberg & M Rodriguez-Lanetty M**. Genetic diversity of free-living *Symbiodinium* in the Caribbean: the importance of habitats and seasons. Coral Reefs. 34:927-939
- Houston LM., **KH Hasenstein** & NT. Deoli. The Mean Method: A Specific Outlier Boundary for Arbitrary Distributions”. Theoretical Mathematics & Applications 5:1-12
- Nelson, JA**, H Garritt, & L Deegan. Drivers of spatial and temporal variability in estuarine food webs Marine Ecology Progress Series 533:67-77
- Oguma, AY & PL Klerks**. Evidence for mild sediment Pb contamination affecting leaf-litter decomposition in a lake. Ecotoxicology 24:1322-1329
- Osawa, Y, MN Aoki, MThiel, & **RT Bauer**. Analysis of Life-History Traits in a Sex-Changing Marine Shrimp (Decapoda: Caridea: Rhynchocinetidae). Biological Bulletin, 228: 125–136
- Pante E, SC France**, D Gey, C Cruaud, & S Samadi. An inter-ocean comparison of coral endemism on seamounts: the case of *Chrysogorgia*. Journal of Biogeography, 42: 1907–1918
- Pesacreta, TC**. F-actin distribution in root primary tissues of several seed plant species. American Journal of Botany 102:1-12
- Pruett, JR., Jr., Kandala, S, Petersen, SE, & **Povinelli, DJ**. Theory of mind, relational reasoning, and social responsiveness in children with and without autism: demonstration of feasibility for a larger-scale study. Journal of Autism and Developmental Disorders, 45:2243-51
- Quattrini A, MS Nizinski, JD Chaytor, AWJ Demopoulos, EB Roark, **SC France**, et al. Exploration of submarine canyons off the northeastern United States reveals dynamic habitats and diverse communities. PLoS ONE, 10: e0139904
- Rasch, JA & RT Bauer**. Reproductive pattern and sexual system of the nocturnal seagrass shrimp *Ambidexter symmetricus* (Decapoda: Caridea: Processidae) in a Florida bay. Marine & Freshwater Research
- Robles, R, & DL Felder**. Molecular phylogeny of the genus *Lepidophthalmus* (Decapoda, Callianassidae), with re-examination of its species composition. Zootaxa 4020:453–472
- Rodriguez-Mora, MJ**, M.I. Scranton, G.T. Taylor & **AY Chistoserdov**. Bacterial Diversity in the Redox Transition and Anoxic Zones of the Cariaco Basin Assessed by Massively Parallel Tag Sequencing. FEMS Microbiol. Ecol. 91:fiv088
- Sloey, TM, & MW Hester**. Interactions between soil physicochemistry and belowground biomass production in a freshwater tidal marsh. Plant and Soil.



Doctoral student Taylor Sloey at wetland field site.

- Sloey, TM, R.J. Howard, & MW Hester**. Response of *Schoenoplectus acutus* and *Schoenoplectus californicus* at different life-history stages to hydrologic regime. Wetlands

Sloey, TM, JM Willis, & M. W. Hester.

Hydrologic and edaphic constraints on *Schoenoplectus acutus*, *Schoenoplectus californicus*, and *Typha latifolia* in tidal marsh restoration. *Restoration Ecology* 23:430–438

Stauffer, BA, J Miksis-Olds, JI Goes. Cold regime interannual variability of primary and secondary producer community composition in the southeastern Bering Sea. *PLoS ONE* 10(6): e0131246

Tagliacollo, VA., SM Duke-Sylvester, FF Roxo, C Oliveira, J. S. Albert. Biogeographic signature of river capture in Amazonian lowlands. *Journal of Biogeography*

Tagliacollo, V. A., **S. M. Duke-Sylvester**, W. A. Matamoros, P. A. Chakrabarty & **J. S. Albert**. Coordinated Dispersal and the Pre-Isthmian Assembly of the Central American Ichthyofauna. *Systematic Biology*

Tang, P-C, GM Watson. Proteomic identification of hair bundle repair proteins in the model sea anemone, *Nematostella vectensis*. *Hearing Research* 327:245-256.

Traeger, LL, JD Volkening, JR Gallant, H Moffett, P-H. Chen, CD Novina, J Phillips, G NR Anand, GB Wells, M Pinch, R Güth, GA Unguez, **J. S. Albert**, HH Zakon, MR Sussman, & MJ Samanta. Unique patterns of protein sequence evolution and miRNA expression in the South American strong voltage electric eel (*Electrophorus electricus*). *Genome Biology* 16:243

Upadhyaya HD, **Y-H Wang**, et al. Geoffrey P Morris, Patricia E Klein. Association mapping of low temperature germinability and seedling vigor in sorghum. *Genome*

Yang, EC, KM Kim, S Kim, JM Lee, HH Boo, J.-H Lee, WA Nelson, G Yi, **WE Schmidt, S Fredericq**, SM Boo, D Bhattacharya & HS Yoon. High conservation of mtDNA gene content and structure among multicellular red algae of the Florideophyceae. *Genome Biology and Evolution* 7:2394-2406

Yednock, B, K Sullivan & J Neigel. *De novo* assembly of a transcriptome from juvenile blue crabs (*Callinectes sapidus*) following

exposure to surrogate Macondo crude oil. *BMC Genomics*. 16:52

Zapata F, FE Goetz, SA, Smith, M Howison, S Siebert, SH Church, SM Sanders, CL Ames, CS McFadden, **SC France**, et al.

Phylogenomic analyses support traditional relationships within Cnidaria. *PLoS ONE*

Newly Funded Projects

In 2015, biology faculty were principal or co-principal investigators on numerous grants and research contracts. This funding helps support both research and student training. Some of the larger awards are presented below.

Scott Duke-Sylvester and Jenneke Visser. The Water Institute of the Gulf. Delta Management Review and Analysis. \$30,169

Darryl Felder. U.S. Food and Drug Administration, Identification and barcoding of Global Commercially Marketed Decapod Crustaceans. \$50,326

Scott France. NOAA-OER/University Corporation for Atmospheric Research. CAPSTONE Expedition: Pacific Marine Monuments and Sanctuaries \$23,885

Scott France. National Fish and Wildlife Foundation. Development of a Method for DNA-based Identification of Black Corals from Skeleton Fragments, \$12,443

Suzanne Fredericq. National Science Foundation. Collaborative Research: ARTS: Integrative Research and Training in Tropical Taxonomy. \$86,845

Mark Hester. Louisiana Sea Grant/Louisiana CPRA, Coastal Science Assistantship Program. Interactive Effects of Nutrient and Hydrologic Regimes on Structuring Fresh and Intermediate Plant Communities. \$75,000

Mark Hester. Louisiana Sea Grant/Louisiana CPRA, Coastal Science Assistantship Program. Effect of Coastal Salt Marsh Restoration Site Age and Substrate Type on

Plant Community Dynamics, Soil Development and Shear Strength. \$25,000

Paul Klerks and **Brad Moon**. Louisiana Board of Regents. Recruitment of superior graduate students in environmental and evolutionary biology for 2016. \$240,000
Paul Leberg. The Water Institute of the Gulf. Coastal Master Plan Model Development and Application Coastal Master Plan Model Development and Application. \$21,231

Paul Leberg. Louisiana Department of Wildlife and Fisheries. Assessment of Back Barrier Marsh Creation Projects Ability to Provide Avian Habitat. \$65,700

Daniel Povinelli. McDonnell Center For Systems Neuroscience, New Resource Proposal, Washington University in St. Louis School of Medicine \$40,000

Beth Stauffer (Subcontract Co-PI). NOAA, National Ocean Service. The Alliance for Coastal Technologies: National-Scale Efforts Toward Verification and Validation of Observing Technologies. \$50,000

Jenneke Visser and **Scott Duke-Sylvester**. The Water Institute of the Gulf. Coastal Master Plan Model Development and Application, Production Runs. \$71,681

DEPARTMENT ROUNDUP NEWS AND NUGGETS FROM INSIDE THE DEPARTMENT

50-pound turtle takes a wrong turn, ends up in classroom



Dr. Brad Moon returns an alligator snapping turtle to Cypress

Lake on campus (photo by D. Dugas).

An alligator snapping turtle that wandered out of Cypress Lake during heavy rains was returned to its home. But not before biology faculty and students at the University of Louisiana at Lafayette got the chance to check out the prehistoric-looking animal up close.

Dr. Brad Moon, an Associate Professor of Biology, said students found the turtle ambling along the brick wall that rims Cypress Lake. It was taken to nearby Wharton Hall.

The adult female, which Dr. Moon estimates to be 30-50 years old, was kept safely in a lab. She was weighed and measured, tipping the scales at 50 pounds, and measuring 30 inches long and 16 inches wide.

Dr. Moon also was able to show the turtle to undergraduate and graduate students, including some who are studying herpetology, a branch of zoology that centers on reptiles and amphibians. “In all the years I’ve been teaching, we’ve never had the opportunity to see one up close like that,” said Dr. Moon, who has taught at the University for about 15 years.

Michael Fulbright, 28, a doctoral student in biology, was among a small group of students who discovered the turtle. His main research interest is the functional morphology and digestive physiology of turtles, or understanding “how turtles bite and digest things.” “Personally, this was incredibly exciting. I’ve actually looked for this species for the last four or five years. They’re very hard to find,” he said. Alligator snapping turtles can live to up to 100 years, and spend most of their time submerged in water. They are found almost exclusively in waterways of the southeastern United States.

Mr. Fulbright said Cypress Lake, a diverse ecosystem located in the heart of

campus, was one of the key reasons he decided to study at UL Lafayette. “When I came to visit the university to see if I was going to come here for my doctoral research, Cypress Lake was one of the biggest selling points, the natural beauty, the diversity of animals,” he said.

Cypress Lake holds alligators, several species of turtles, and fish such as bass, sunfish, and garfish. Birds, such as hawks, nest in the lake’s cypress trees, and water birds, such as herons and egrets, wade its shores.

Dr. Moon consulted with the Louisiana Department of Wildlife and Fisheries, and the University’s Office of Environmental Health and Safety, before returning the turtle to Cypress Lake. (story modified from one originally prepared by University’s Office of Communications and Marketing)

Board of Regents Professorships awarded to three faculty in recognition of their outstanding contributions

This year, faculty awarded these three-year professorships included:

Scott France—Charles R. Godchaux/BoRSF Professorship in Coastal Biodiversity Research Development

Paul Leberg—John E. and Joretta Achee Chance Endowed Professorship

Joseph Neigel—South Louisiana Mid-Winter Fair/BORSF Professorship

Other Awards and Honors

Don Ennis received the Dr. Leon LaHaye Endowed Faculty Development award.

Karl Hasenstein was awarded the Basler Chair of Excellence from East Tennessee State University. During the Spring Semester of 2017 he will be in residence at ETSU where he will be teaching, presenting seminars, and collaborating on research.

Pegge Alciatore, Penny Antley, Sherry Kraysky-Self, Patricia Mire-Watson and Kyle Patton all won awards from the University as Outstanding Advisors.

Scott-Duke Sylvester and YiHong Wang were promoted to the rank of Associate Professor.

James Albert was promoted to the rank of Full Professor.

Your Gifts Make A Difference!

Donations to the Department of Biology’s University of Louisiana at Lafayette Foundation fund allow us to make investments in new research directions and student education programs that are difficult to fund through our modest operating budget.

Gifts can be made online by visiting: <https://ullafayettefoundation.org/giving/sciences> In the section marked designations, select “Other” and enter “BIOLOGY DEPARTMENT” in the associated box.

Contributions to our foundation fund can also be made by sending a check, made out to **Biology Department Fund ULL Foundation**, to the foundation. Their address is:

UL Lafayette Foundation
P.O. Box 44290
Lafayette, LA 70504-4290

Thank you for any gift you provide supporting the department’s activities.

90 Undergraduates Earn Biology Degrees in 2015!

Ackel, Abraham Philip
Adams, Morgan Alexandra
Andrepoint, Celenia Mackenzie
Angelle, Katrina N.
Arceneaux, Courtney
Artigue, Michael Nicholas
Asonye, Ngozi
Babineaux, Alyssa
Barnhill, Natasha Rae
Beckett, Sadie
Bertrand, Amanda Gail
Bertrand, Chelsea
Bolgiano, Victoria Lee
Boudreaux, Adrienne Louise
Bowden, Jacob Mcquien
Briggs, Shawn Logan
Brockmann, Stephanie Nicole
Burger, Victoria Leigh
Bux, Jannet Rahim
Caillet, Andrew Michael
Cantrell, Andrea Paige
Chaisson, Courtney Joan
Cola, Andrea Laclai
Collette, Jantzen
Conques, Megan Elizabeth
DeKerlegand, Amy Marie
Deniger, Lauren Marie
Dinh, Lyly Nhi Vu
Dooley, Danielle Alexandra
Duchesne, Miranda La'Rae
Early, Heidi D
Edmond, Sydney Alexander
Famiglio, Katie Ann
Filce, Abby
Fontenot, Taylor Marie
Foret, Brittany Leigh
Foster, Patrick
Freeman, Arielle
Fruge', Laura Catherine
Gros, Kayla Lennai
Guilbeaux, Trey
Gussoni, Ashley Amanda
Handy, Kolby
Hanks, Amy Marie
Haq, Zadid Kamrul

Hargroder, Abby M
Henry, Jason Jamell
Hummel, Stefanie Marie
Jackson, Kelsey Taylor
Keyser, Brittany Rachel
Khansa, Mariam Jasmine
Koch, Caroline Jade
Labry, Kevin Paul
Landry, Dylan Jude
Latiolais, Nicholas Frank
LeBlanc, Megan Alyse
Lovera, Joshua Steven
Martin, Brittany Nicole
McDowell, Kelly Lauren
Miller, Monique Lynn
Nemeth, Kaylee Ann
Ortego, Heather Lynne
Payne, Austin Stuart
Pecor, Ian James
Pete, Morgan Ada
Phung, Kevin Trong
Pitre, Ariel Michelle
Polk, Palfrey Lee
Rees, Anna Katherine
Rice, Jancee Layne
Sahuc, Peter Fernand
Saltamachia, Stephen James
Sibley, Shea Michael
Sides, Michael J
Smith, Camille M.
Stein, Alexis Joan
Steward, Claire Anne
Tatford, Evan Shelby
Tillis, Nekeisha Denise
Voisard, Tess Nicole
Walker, Carnesiha
Walker, Jessica Verneshia
White, Jeremy Ross
Wiesmann, Kelly Lynn
Williams Jr, Darryl K
Wilson, Kalyn Elaine
Wilson, Tierra Dionne
Young, Philip Thomas
Zachary, Justin Lee
Zhang, Xiao

**Congratulations and best wishes to
all of our 2015 graduates!**

Undergraduate Organization News

The Biology Society

Faculty Advisor: Kyle Patton

This past year was a very adventurous one for the Biology Society. In the spring, faculty member Garrie Landry gave a presentation on the local flora of Kisatchie National Forest and members were invited to accompany his course on an overnight camping trip to Lake Fullerton the following weekend. We had a great time exploring the fields, woods, wetlands, and bogs of central LA. In February, valentines were made and sold on Rex Street for our biannual bake sale.

For science day, officers and members volunteered their time to demonstrate laboratory experiments and take part in the activities. On earth day, members Dylan DeRouen and Stephen Saltamachia led the group on a night hike at the Acadiana Nature Station. Over the summer, members volunteered their time at organization expos during summer orientations to recruit new members for the upcoming fall. It was a huge success, and more than 300 students signed up as new members. In the fall, local insect experts Steven and Michael Barney gave a presentation on how to catch bugs. They brought some of their pets to allow members to see and hold. Later in the semester, Mark Shirley and Natalie Elizabeth McElyea from the LSU AgCenter gave a presentation on Alligators of Louisiana to raise money for the organization, members worked with the Bayou Vermilion District to pick up trash and recycling at Festival Acadien and the Blackpot Festival held at Vermilionville.

Funding was additionally raised at the annual Halloween Bake Sale. The club visited the Louisiana Arboretum for a mushroom hike lead by Kim Hollier late in the semester. After the hike, members stayed at Chicot State Park for a campout. Vice President Branson Cambre cooked up a delicious jambalaya and fun was had by all.



Biology Society members volunteering at Science Day!

Pre-Veterinary Society

Faculty Advisor: Dr. Joseph Neigel

This was a very active year for the UL Lafayette Pre-Vet Society. We had some great information sessions on how to get into vet school and become a veterinarian. We hosted meetings with a group of veterinarians from UL Lafayette's New Iberia Research Center and with Dr. Joseph Taboada, Associate Dean of Students and Academic Affairs at the LSU School of Veterinary Medicine. Members were given a tour of Dr. Toby Wexler's veterinary hospital in Lafayette and watched a water treadmill demonstration at Acadiana Veterinary Clinic. We ran a successful drive to raise supplies for the Acadiana Humane Society and some of our members assisted in the prep, surgery and recovery of over 100 feral and shelter cats that were neutered or spayed at the LSU School of Veterinary Medicine on Spay Day.

Pre-Professional Society

Faculty Advisor: Dr. Bruce Felgenhauer



This year the ULL Pre-Professional Society hosted in

the Fall Semester the Deans of the Medical, Dental, Optometry, and Osteopathic Medicine schools from Louisiana, Memphis, TN and Hattiesburg, MS. These Deans included: Dr. F. Scott Kennedy (Dean of Admissions Shreveport), Dr. Jim Weir (Dean of Admissions, William Carey Osteopathic Medicine), Sunny Ewing (South School of Optometry, Memphis), Dr. Sam McClugage (Dean of Admissions New Orleans), and Dr. Cherie (Dean of Admissions LSU Dental School, New Orleans). In addition, Mackel Harris from Life College in Atlanta, GA came and spoke to the group about their program in Chiropractic Medicine. Throughout the rest of the year there was a wide variety of fine speakers from many different areas of Health Care in Acadiana including: Dr. Jason Breaux, N.P., Dr. Matthew Boudreaux, M.D., Dr. Lige Dunaway, D.D.S., Lena Sevin and John Hendrick (Physician Assistants also representing Our Lady of the Lake Physician Assistants School), Melanie Lavo (Texas Chiropractic College Dean) and Dr. Felgenhauer giving his annual “State of the Union Address” on the basics of applying to professional schools.

The society was extremely active this year in community service. The members raised over \$8000 for the American Heart Association (which was

the largest contribution from an organization in Lafayette, and received a nice news story on Channel 3), \$5000 for St. Jude Children’s Research Hospital in Memphis, and \$2000 for the Lafayette Area Health Care Clinic. In addition our members were involved in Clean-Up Day in Girard Park, Preview Day and “Up til Dawn” fund raiser for St Jude. Members also volunteered for Habitat for Humanity and the Heart Walk of Acadiana.

Society enrollment increased again this year as this large organization continues to grow and is one of the most active student organizations on Campus. It was another good year for this outstanding group of fine students!

Mentoring Matters!

Faculty Advisor: Dr. Sherry Kravesky-Self

The Department of Biology launched a program, in the spring of 2014, in which students provide peer assistance to other students. The Mentoring Matters program has continued to grow, and there are now 47 members and one official advisor. Their duties include: drop-in supplemental peer instruction in Introductory Biology, Anatomy & Physiology, Cell Biology, Genetics, and the non-majors Principles of Biology, development of good study habits and test-taking skills, and sharing personal experience that can only come through peer mentoring. We have expanded from our original space in the biology building and added sessions. The Edith Garland Library has allocated an area in the reference library especially for evening sessions. In the fall of 2016, BIOL 261 (Microbiology) will be added to the roster along with an increase in the number of mentors. The

amazing thing about this program is how it has grown from within by the mentors themselves. They promulgate the program by advertising, visiting classes, scheduling sessions, and of course, mentoring in their own area of expertise. The mentors often say they get far more out of this program than their mentees!



Some of the biology students serving as peer mentors

Manos Unidas

Faculty Advisor: Dr. Phyllis Griffard

When biology majors **Sierra Poirier** and **Miranda Lee** came back from their immersive medical mission trip to Peru last winter, they were committed to help other Ragin' Cajuns with similar dreams. This led them and two other biology majors, **Allison Campbell** and **Phenicia Smith**, to develop plans for a new club, Manos Unidas. This official UL student organization is designed to help students with fund-raising and logistics to make their own trips happen, whether they are in international or domestic settings or are medical, environmental or educational. The club leaders look forward to a fall launch with Get On Board Day.

Biology Student Named Outstanding Graduate

Mr. Zadid K. Haq, who earned a bachelor's degree in biology, was recognized as the University of Louisiana at Lafayette Alumni Association's overall Outstanding Graduate in spring 2015. He was also named Outstanding Graduate for the Ray P. Authement College of Sciences. He is the son of Ema and Zakia Haq of Lafayette.

In addition to earning a 4.0 GPA, Mr. Haq was President of the UL Lafayette Honors Program and Vice President of the UL Lafayette Pre-Professional Society. He has already had research results published in an international journal.

Mr. Haq founded the UL Honors Orphan Outreach program, which in 2014 raised \$8,850 for Syrian orphans. His community service work includes working at the Lafayette Community Health Care Clinic, and with Big Brothers Big Sisters of Acadiana. He received the Big Brother of the Year Award in 2014.

Mr. Haq was a patient aide for Heart of Hospice, and a team captain for Relay for Life, an event that raises money for cancer research. He worked with the Phi Kappa Phi Book Drive, Habitat for Humanity, St. Jude Children's Research Hospital, the American Heart Association, and Special Olympics.

He received a UL Lafayette Alumni Association Endowed Scholarship, a Lafayette Parish Medical Scholarship, a Lafayette Parish Academic Rally Scholarship, a Dr. John Tolson Jr. Memorial Scholarship, a Dr.

Ben and Clare Roy Thibodeaux Scholarship, and an International Association of Drilling Contractors Chapter Scholarship.

Findings of research conducted by Mr. Haq and others were published in an international journal in the field of bioinorganic DNA cleavage and modeling. Following graduation, Mr. Haq planned to attend medical school. (this story was modified from one originally prepared by University's Office of Communications and Marketing)

Undergraduate Research Symposium

SHARE THE EXCITEMENT of RESEARCH was the theme of the 1st **Annual Biology Undergraduate Research Symposium** held in Billeaud Hall on April 24, 2015. Biology undergraduate students are active in a variety of research projects mentored by faculty in our department. Although the department has sponsored a successful, graduate student symposium every fall semester for many years, no comparable forum existed for undergraduate students to share their research experiences in the department until this past year. The 1st Annual Biology Undergraduate Research Symposium featured thirteen oral presentations of recent or ongoing research given by twelve undergraduate students. Presenters were: Melissa Cavanaugh; Nicholas Chu; Fatima Fazal-ur-Rehman; Taylor Fontenot; Brittany Foret; Frank Higgins; Megan Leblanc; Daniel Mire; Delena Phung; Kevin Phung; Stephen Saltamachia; and Kalyn Wilson. The symposium, coordinated by Dr. Patricia Mire, was well-attended by faculty, graduate students, and undergraduate students from across campus. RPA College of Science Dean Azmy Ackleh, Associate

Dean Mike Totaro, and Assistant Dean Lee Price were also in attendance. Congratulations to all presenters on a job well-done!

Graduate Student Awards and Accomplishments

Continuing grad students were first authors on 14 peer-reviewed publications and submitted 14 additional manuscripts that were still in review at the end of the year, presented 15 off-campus seminars, and gave 46 conference presentations in 2015. Below are some examples of awards made to students in the program.

Ajala, Chitra: Elected Vice President of the Student Council for the American Society for Gravitational and Space Research

Deb Adhikary, Nihar: Travel award at 2015 Gulf of Mexico Oil Spill & Ecosystem Science Conference, Houston, TX

Edge, Andrea: Student President American Society for Gravitational and Space Research Student Organization; Travel award from American Society for Gravitational and Space Research meeting

Hauser, Samantha: H. Dickson Hoese and Richard Moore Award from the UL Lafayette Department of Biology for Best Graduate Student Publication in Biology for 2015.

Penning, David: Graduate Research Award from The Herpetologists' League; Henri Seibert Award for best paper in physiology/morphology from the American Society of Ichthyologists and Herpetologists; Rockefeller State Wildlife Scholarship from the Louisiana Dept. of Wildlife and Fisheries; Alan H. Kamb Grant for Research on Kansas Snakes from the

Kansas Herp Society; Gans Collections and Charitable Fund Travel

Yando, Erik: Martial F. Billeaud Endowed Scholarship, UL Lafayette
16 Graduate Degrees Conferred

Doctor of Philosophy in Environmental and Evolutionary Biology

Esposito, Rhea. Dissertation: Being Neighborly: Costs and Benefits of Nesting Associations between Sympatric Corvids; Advisor: **Dr. Daniel Povenelli**

Krayesky-Self, Sherry. Dissertation: New Insights into the Rhodolith Microenvironment with a Focus on the Gulf of Mexico; Advisor: **Dr. Suzanne Fredericq**

Palacios Theil, Emma. Dissertation: Molecular Phylogenetics and Species Divergence in Selected Pinnotheridae (Crustacea: Brachyura: Decapoda); Advisor: **Dr. Darryl Felder**

Rasch, Jennifer. Dissertation: Reproductive Ecology and Sexual Biology of the Seagrass Shrimp *Ambidexter symmetricus* (Caridea: Processidae) and its Isopod Parasite; Advisor: **Dr. Raymond Bauer**

Sloey, Taylor. Dissertation: Environmental Constraints on the Establishment and Expansion of Freshwater Tidal Macrophytes: Applications to Restoration Ecology; Advisor: **Dr. Mark Hester**

Tagliacollo, Victor. Dissertation: Biogeography and the Origins of Diversity in Neotropical Freshwater Fishes; Advisor: **Dr. James Albert**

Tang, Pei-ciao. Dissertation: Repair of Damaged Hair Cells in Tentacles of

Sea Anemones and in the Inner Ear of Mice by Specific, Secreted Proteins; Advisor: **Dr. Glen Watson**

Ukey, Rahul. Dissertation: Genetic Manipulation of *Acinetobacter baylyi* ADP1 to Enhance Biofuel Precursor Production; Advisor: **Dr. Andrei Chistoserdov**

Master of Science in Biology, Non-Thesis

Delay, Chris. Advisor: **Dr. Susan Mopper**

Master of Science in Biology, Thesis

Bradnan, Danielle. Dissertation: Cherelle Wilt in *Theobroma cacao*; Advisor: **Dr. Karl Hasenstein**

Choubey, Lisha. Thesis: Quantitative Assessment of Fgfr1 Expression in Neurons and Glia of the Developing Mouse Brain; Advisor: **Dr. Karen Smith**



Lisha Choubey and her advisor, Dr. Smith

Grandon, Jarrod.

Thesis: The Distribution of Apiaceae in Lafayette and St. Martin Parishes; Advisor: **Dr. Susan Mopper**

Horaist, David. Thesis: Estimating Plant Establishment from Louisiana Coastal Zone Seed Bank Responses to Flooding and Salinity; Advisor: **Drs. Scott Duke-Sylvester & Jenneke Visser**

Hundy, Laura. Thesis: Plant Growth and Soil Shear Strength in Relation to Soil Properties and Hydro-Edaphic Characteristics of Restored Louisiana

Salt Marshes; Advisor: **Dr. Mark Hester**

Karmacharya, Binab. Thesis:

Population Dynamics of Passerine Birds in an Urban Forest Fragments: Safe Refuge or Ecological Trap?

Advisor: **Dr. Scott Duke-Sylvester**

Mathai, Reyna. Thesis: Simulating the Effects of Landscape Heterogeneity on the Spread of Raccoon Rabies in the Northeastern United States using a SEI model; Advisor: **Dr. Scott Duke-Sylvester**

Schulz Peacock, Jessica. Thesis: Factors Affecting Prey Availability and Habitat Usage of Wintering Piping Plovers (*Charadrius melodus*) in Coastal Louisiana; Advisor: **Dr. Paul Leberg**

Graduate Student Research Showcase

The Graduate Student Research Showcase is a campus-wide event organized by the Graduate School that strives to acknowledge and celebrate the contributions of graduate students to the UL Lafayette by providing graduate students the opportunity to showcase their research, projects, and original works. Biology graduate students excelled at the showcase events and earned multiple awards.

Susan John won 1st place in the 3-minute thesis (3MT) competition.

David Penning won 2nd place in the 3-minute thesis (3MT) competition and the People's Choice award for the competition.

Taylor Sloey won 3rd place in the 3-minute thesis (3MT) competition

David Penning won 1st place in the poster competition.

Joe Richards won the publication competition in the STEM category.



Michael Fulbright's photo with the alligator snapping turtle from Cypress Lake was one of several chosen to be displayed in the Graduate School.

Alumni Updates

We love to hear from our graduates. If you have information you would like to share involving your professional or personal life, please send it Sondra Meyers (sdm7944@louisiana.edu). Please be sure to include information on your year of graduation and degree; participation by alumni of both our undergraduate and graduate programs is encouraged.

Hiring?

We maintain an email list of recent grads searching for positions and have contact with current students. If you have a position or internship announcement appropriate for biology majors that you would like us to distribute to these groups, please send it to me (Leberg@Louisiana.edu) as an email attachment. Likewise, if you are a recent graduate, let me know if you would like to be added to our email list.