

# Welcome To BIONEWS!

Fall 2016/Spring 2017

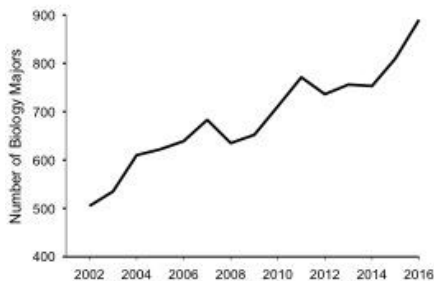


Welcome to the 5<sup>th</sup> edition of *Bionews*, the annual newsletter of the Biology Department of University of Louisiana at Lafayette. In this edition, we highlight

news stories and other important events in the life of the department that occurred in 2016. 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, later in these pages, you will see that Dr. Patty Mire was honored by the University as an eminent scholar. 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 four outstanding new faculty members.

Enrollment in our undergraduate program continues to boom, with another record set in fall 2016.



To help better address the training of these students, we have started a new initiative aimed at integrating research throughout the curriculum. We are also reorganizing our course concentrations, something I will report on next year. Our instructors are also developing research space dedicated to the training of undergraduates, and on page 12 are seeking donations to support that effort.

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

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## Faculty Spotlights

Along with the increase in undergraduate enrollment, it was a noteworthy year for our faculty who produced not only exciting research but in some cases received rewards for their honorable effort and continued work. Lets reflect on some of their accomplishments!

### Faculty Member Receives Eminent Faculty Award!



Patricia Mire was among five University faculty members who received the Eminent Faculty Award in 2016. Comprised of faculty members from each college, the Distinguished Professorship Selection Committee selects candidates who stand out among nominees. Each year the UL Lafayette foundation presents the award which also includes a \$5,000 stipend.

A master instructor of biology, Patricia Mire-Watson was one of two individuals who received the Dr. Ray P. Authement Excellence in Teaching Award which is

named after the university's 5th president. This award is given to those who strive to innovate and excel in their approaches to teaching and pedagogical scholarship. Included among her noteworthy approaches in pedagogy, she is also responsible for founding the Department of Biology's Undergraduate Research Symposium as well as playing an important role in developing the college's Science Day. This is a day in which high school juniors and seniors have the opportunity to take part in experiments and also tour the departments of Chemistry, Computing and Informatics, Geosciences, Mathematics Physics and Biology.

In the 20 years that Patricia Mire has been a part of the university she has brought in over \$600,000 in grants from the National Science Foundation and from the National Institutes for Health. Commenting on her creative approaches to pedagogy Dr. Paul Leberg noted, "Typically, it is hard to be innovative in large sections with hundreds of students, but this has not stopped her from experimenting with novel ways to explain complex topics". We are proud to see all that she has accomplished here at the university and are looking forward to the great work she will continue to push forward in our department.

## Research Bites Back!



*Biology researchers Dr. Brad Moon and Dr. David Penning (pictured) challenge long held snake striking misconception.*

Research published in the journal "Biology Letters" by biology students **David Penning** and **Baxter Sawvel** and advisor **Dr. Brad Moon** took the fangs out of the widespread misconception that vipers,

such as rattlesnakes, have the fastest strikes of all snakes.

The scientists measured the defensive strikes of Texas rat snakes, western diamond-backed rattlesnakes, and water moccasins locked in specially modified cages. The rattlesnakes struck fastest overall, with accelerations of 28 Gs (1 G is the acceleration due to gravity). Rat snakes were a close second though, at 27 Gs, and were sometimes faster than the vipers. That's almost double the amount of G-force that could cause a fighter jet pilot to lose consciousness. Vipers and rat snakes both hit their targets in about 50 to 90 milliseconds, which is over twice as fast as the blink of a human eye at 200 ms.

"Basically, the primary conclusion is that vipers are not necessarily the snipers of the snake world. They strike quickly, but so do other snakes," said Penning. That sort of reasoning resonated with dozens of international media outlets. National Geographic, The New York Times, the Los Angeles Times, and Discover, are just several that covered the findings. The research was also included in a Public Broadcasting Service documentary, although in a different context. An episode of the PBS series "Secrets of the Dead," titled "Graveyard of the Giant Beasts," focused on which of two prehistoric reptiles might have been the apex predator in the rainforests of South America after a meteor strike wiped out dinosaurs more than 60 million years ago.

The PBS series relies on modern research to explore subjects like archaeology, disaster and disease, and historical figures. The episode featuring Penning showed Titanoboa, an ancient snake estimated to have been 3 feet wide and up to 48 feet long. Titanoboa must have occasionally fought with the Cerrejon, a 30-foot-long prehistoric crocodile with jaws as long as a person, when one tried to eat the other. Fossils of the two extinct reptiles were unearthed at a site in Colombia, South America. A film crew visited Dr. Moon's lab and interviewed Penning. The two have measured the striking and constriction capabilities of diverse snakes, including some of the world's largest pythons and boa constrictors. For the documentary, Penning's objective was to estimate strike speed and constriction strength of Titanoboa. He worked in the laboratory, and visited zoos and private breeders, to measure large snakes, including a 15-foot long Burmese python. What he learned was that Titanoboa could have struck at the crocodile in one-to two-tenths of a second.

He also determined that the huge snake would have been able to constrict prey with an overall constriction pressure of about 250 pounds per square inch. These capabilities would have made the predatory interactions between Titanoboa and Cerrejon impressive, and dangerous for both!

(Story modified from one by Charlie Bier originally prepared for La Louisiane magazine by University's Office of Communications and Marketing)

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## Research Publications

In 2016, our 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.

- Abshire, C.F. K. Prasai, I. Soto, R. Shi, M. Concha, M. Baddoo, E. Flemington, **D.G. Ennis**, R.S. Scott, and L. Harrison, 2016. Exposure of *Mycobacterium marinum* to low-shear modeled microgravity: effect on growth, the transcriptome and survival under stress. *Nature-MG* DOI:10.1038/npjmggrav.2016.38.
- Albert, J.S.** D.R. Schoolmaster, **V. Tagliacollo**, and **S.M. Duke-Sylvester**. 2016. Barrier displacement on a neutral landscape: Towards a theory of continental biogeography. *Syst. Biol.* DOI: 10.1093/sysbio/syw080.
- Arruda, C.T., and **D.J. Povinelli**. 2016. Chimps as secret agents. *Synthese* 193: 2129-2158.
- Blankson, E.**, and **P.L. Klerks**. 2016. The effect of bioturbation by *Lumbriculus variegatus* on transport and distribution of lead in a freshwater microcosm. *Environmental Toxicology and Chemistry* 35:1123-1129.
- Bortolini, J.L., and **R.T. Bauer**. 2016. Persistence of reduced androgenic glands after protandric sex change suggests a basis for simultaneous hermaphroditism in a caridean shrimp. *Biological Bulletin* 230:110-119.
- Chen, H., J. Cao, L. Li, X. Wu, R. Bi, **P.L. Klerks**, and **L. Xie**. 2016. Maternal transfer and reproductive effects of Cr(VI) in Japanese medaka (*Oryzias latipes*) under acute and chronic exposures. *Aquatic Toxicology* 171:59-68.
- Costa APB, Rosel PE**, Daura-Jorge F, Simões-Lopes PC. 2016. Offshore and coastal common bottlenose dolphins of the western South Atlantic face-to-face: What the skull and the spine can tell us. *Marine Mammal Science* 32(4):1433–1457.
- Collin R., **S. Fredericq**, D.W. Freshwater, E. Gilbert, M. Madrid, S. Maslakova, M.P. Miglietta, R.M. Rocha, E. Rodríguez, and R.W. Thacker. 2016. TaxaGloss – A glossary and translation tool for biodiversity studies. *Biodiversity Data Journal* DOI: 10.3897/BDJ.4.e10732.
- Deaton L.E., W. Schmidt**, B. Leblanc, J. Carter, **K. Mueck** and S. Merino. 2016. Physiology of the invasive apple snail *Pomacea maculata*: tolerance to low temperatures. *Journal of Shellfish Research* 35:207-210.
- Fortela, D.L., R. Hernandez, **A. Chistoserdov**, M. Zappi, R. Bajpai, D. Gang, E. Revellameand and W. Holmes. 2016. Biodiesel profile stabilization and microbial community selection of activated sludge feeding on acetic acid as a carbon source. *ACS Sustainable Chem. Eng.* 4:6427–6434.
- Fredericq S.** and **W.E. Schmidt**. 2016. Red Algae. In: eLS. John Wiley & Sons Ltd, Chichester. <http://www.els.net> [DOI: 10.1002/9780470015902.a0000335.pub2]
- Hester, M. W., J. M. Willis**, and T.M. Sloey. 2016. Field assessment of environmental factors constraining the development and expansion of *Schoenoplectus californicus* marsh at a California tidal freshwater restoration site. *Wetlands Ecology and Management*. 24(1), 33-44.
- Hester, M. W., J. M. Willis**, S. Rouhani, M. Steinhoff, and M. C. Baker. 2016. Impacts of the *Deepwater Horizon* oil spill on the salt marsh vegetation of Louisiana. *Environmental Pollution*. 216: 361-370.
- Jones, S. F., C. L. Stagg, K. W. Krauss**, and **M. W. Hester**. 2016. Tidal saline wetland regeneration of sentinel vegetation types in the Northern Gulf of Mexico: An overview. *Estuarine and Coastal Shelf Science*. 174:A1-A10.
- Kulkarni R**, Caskey J 2, Singh SK, Paudel S, Baral P, Schexnayder M, Kim J, Kim N, Kosmider B, Ratner AJ, Jeyaseelan S 2016. Cigarette Smoke Extract-Exposed Methicillin-Resistant *Staphylococcus aureus* Regulates Leukocyte Function for Pulmonary Persistence. *American Journal of Respiratory, Cell and Molecular Biology* 55(4):586-601.

- Lemaitre, R., J. Poupin, and **D. L. Felder**. (2016 accepted, in press). Discovery of a new micro-pagurid fauna (Crustacea: Decapoda: Paguridae) in the Lesser Antilles, Caribbean Sea. *Zoosystema*.
- Liu, J.-Z., W. Xu, **A. Chistoserdov**, R.K. Bajpai. 2016. Glycerol Dehydratases: Biochemical Structures, Catalytic Mechanisms, and Industrial Applications in 1,3-Propanediol Production by Naturally-Occurring and Genetically-Engineered Bacterial Strains. *Appl. Biochem. Biotechnol.* 179:1073-1100. DOI: 10.1007/s12010-016-2051-6.
- Mopper, S.**, Wiens, K. C., & Goranova, G. A. (2016). Competition, salinity, and clonal growth in native and introduced irises. *American journal of botany*, 103(9), 1575-1581.
- Moulton, O.M., M.A. Altabet, M.J. Beman, L.A. Deegan, J. Lloret, M.K. Lyons, **J.A. Nelson**, and C.A. Pfister. 2016. Microbial associations with macrobiota in coastal ecosystems: patterns and implications for nitrogen cycling; *Trends in Ecology and Evolution* Volume 14:200-208.
- Park M.R.**, and **K.H. Hasenstein**. 2016. Beware of Fixation – It Might Affect Your Experiments *Gravitational and Space Research* 4(2):47-57.
- Pellerin, B.A., **B.A. Stauffer**, D.A. Young, D.J. Sullivan, S.B. Bricker, M.R. Walbridge, G.A. Clyde, and D.M. Shaw. 2016. Emerging tools for continuous nutrient monitoring networks: Sensors advancing science and water resources protection. *Journal of the American Water Resources Association*, 52:1–16.
- Penning, D.A.**, B. Sawvel, and **B.R. Moon**. 2016. Debunking the viper’s strike: harmless snakes kill a common assumption. *Biology Letters* 12:20160011.
- Povinelli, D.J.** and Frey, S. 2016.. Constraints on the exploitation of the functional properties of objects in expert tool-using Chimpanzees (*Pan troglodytes*). *Cortex*, 82:1–23.
- Pruett, J.R. and **Povinelli, D. J.** 2016.. Autism spectrum disorder: spectrum or cluster? *Autism Research*. 9:1237–1240.
- Rakshit, S., & **Wang, Y.H.** (2016). *The Sorghum Genome*. Springer International Publishing.
- Richards J.L.**, T. Vieira-Pinto, **W.E. Schmidt, T. Sauvage**, P.W. Gabrielson, M.C. Oliveira, and **S. Fredericq**. 2016. Molecular and morphological diversity of *Lithothamnion* spp. rhodoliths (Hapalidiaceae, Hapalidiales) from deepwater rhodolith beds in the northwestern Gulf of Mexico. *Phytotaxa* 278:81-114.
- Ruan C-J, R Yan, B-X Wang, **S. Mopper**, W-K Guan, and J. Zhang. **2017**. The importance of yellow horn (*Xanthoceras sorbifolia*) for restoration of arid habitats and production of bioactive seed oils. *Ecological Engineering* 99:504–512.
- Silliman, B. R., P. M. Dixon, C. Wobus, Q. He, P. Daleo, B. B. Hughes, **J. M. Willis**, and **M. W. Hester**. 2016. Thresholds in marsh resilience to the *Deepwater Horizon* oil spill. *Nature Scientific Reports*. 6, Article number: 32520. DOI 10.1038/srep32520.
- Sloey, T. M., R. J. Howard, and **M. W. Hester**. 2016. Response of *Schoenoplectus acutus* and *Schoenoplectus californicus* at different life-history stages to hydrologic regime. *Wetlands*. 36(1), 37-46.
- Sloey, T. M., and **M. W. Hester**. 2016. Interactions between soil physicochemistry and belowground biomass production in a freshwater tidal marsh. *Plant and Soil*. 401(1):397-408.
- Stepien CA, Karsiotis SE, **Sullivan TJ**, Klymus K. *In press*. Population genetic structure and comparative diversity of smallmouth bass: congruent patterns from two genomes. *Journal of Fish Biology*.
- Tang, P.C.**, **K. M. Smith**, and **G.M. Watson**. 2016. Repair of traumatized mammalian hair cells via sea anemone repair proteins. *Journal of Experimental Biology*. 219:2265-2270.
- Upadhyaya, H. D., **Wang, Y.**, Sastry, D. V., Dwivedi, S. L., Prasad, P. V., Burrell, A. M., Klein, R.R., Morris, G.P., Klein, P. E. 2016. Association mapping of germinability and seedling vigor in sorghum under controlled low-temperature conditions. *Genome* 59: 137-145.
- Vasseur, P.L.**, and **P.L. Leberg**. 2016. Video surveillance of Painted Bunting nests to determine the effect of parental behavior on nest success. *Southeastern Naturalist* 51:1–11.
- Willis, J. M.**, **M.W. Hester**, S. Rouhani, M. Steinhoff, and M.C. Baker. 2016. Field assessment of the impacts of *Deepwater Horizon* oiling on the coastal marsh vegetation of Mississippi and Alabama. *Environmental Toxicology and Chemistry*. 35:2791-2797.

- Yando, E.S.**, M.J. Osland, **J.M. Willis**, R.H. Day, **K.W. Krauss**, and **M.W. Hester**. 2016. Salt marsh-mangrove ecotones: Using structural gradients to investigate the effects of woody plant encroachment on plant-soil interactions and ecosystem carbon pools. *Journal of Ecology*. 104: 1020–1031.
- Xie, L.**, X. Wu, H. Chen, Y. Luo, Z. Guo, J. Mu, **E.R. Blankson**, W. Dong and **P.L. Klerks**. 2016. The bioaccumulation and effects of selenium in the oligochaete *Lumbriculus variegatus* via dissolved and dietary exposure routes. *Aquatic Toxicology* 178:1-7.

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## Newly Funded Projects

In 2016, biology faculty were principal or co-principal investigators on numerous grants and research contracts. Some of the new awards to faculty are presented below.

- Fredericq, Suzanne**. National Science Foundation. REU suppl. Collaborative Research: ARTS: Integrative Research and Training in Tropical Taxonomy. PI, 2016, \$6,250
- Hasenstein, Karl**. LaSPACE: Starch Metabolism in Amyloplasts, 2016 – 2017, \$6,000
- Hasenstein, Karl**. LA-BOR: Upgrading Particle-Induced X-Ray Emission Spectrometry at the Louisiana Accelerator Center, 2016-2017, \$29,973 NASA (EPSCOR) NNH13ZHA001C Genetic Assessment of the Space Environment using MEMS Technologies. Co-PI, 2013-2016, \$1,450,000; Hasenstein share: \$360,000
- Hester, Mark**. U.S. Army Corps of Engineers/Louisiana CPRA. Coast 2050 Academic Advisor PPL-26. (PI) 2016; \$3,000
- Klerks, Paul**. Louisiana Board of Regents. Recruitment of superior graduate students in environmental and evolutionary biology for 2016. PI, **Brad Moon** (CoPI), 2016-2021, \$240,000
- Mopper, Susan**. Conserving pollinators and wildlife with coastal prairie plants, Coypu Foundation, 2016-2017, \$83,278
- Stauffer, Beth**. Louisiana Sea Grant. 2016-2018, \$70,000. Investigating the potential impacts of restoration activities on phytoplankton communities in the Atchafalaya-Vermillion Bay system

- Stauffer, Beth**. NOAA, National Ocean Service The Alliance for Coastal Technologies: National-Scale Efforts Toward Verification and Validation of Observing Technologies. Co-PI, 2016-2017, \$56,000

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## Department Roundup: News and Nuggets From Around the Department

### Biology Undergraduate Research Symposium 2016



Thirteen outstanding undergraduate student researchers shared their research experiences with faculty, graduate students, friends, and family at the **2nd Annual UL Lafayette Biology Undergraduate Research Symposium** held on April 26, 2016 in 220 BLD. Students giving oral presentations were Lauren Broussard, Melissa Cavanaugh, Fatima Fazal-ur-Rehman, Victor Fields-Meaux, Lilian Gathanga, Cory Hillard, Dahlia Khalifa, Andrea Lee, Matilda Mostrom, Sarah Saunier, Cayman Stephen, Hayden Torres, and Laramie Williams. Faculty and graduate students who mentored these undergraduate student projects included Lewis Deaton, Don Ennis, Suzanne Fredericq, Patricia Mire, Brad Moon, Kristy Mueck, Debbie Rogers, Sherry Self-Krayesky, Karen Smith, Beth Stauffer, and Glen Watson.

Congratulations to all students and mentors on a job well-done!

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## Biology Society 2016



This was an exceptionally active year for the ULL Biology Society. In the beginning of the spring semester, our president Dylan DeRouen introduced an audience of over 100 students to the club and described the activities planned for the semester. Jambalaya and King cake were served to all in attendance. In early March, Biology Society members went on the biannual campout to Kisatchie National Forest. In late March, our annual Easter Bake sale raised over \$150 for the organization. In the beginning of April, members took advantage of the beautiful weather and went on the biannual sunset paddling trip to Lake Martin where kayaks were provided by the Bayou Vermillion District. Near the end of the semester, members set up a recycling challenge at the Fete de la Terre Expo put on by the Office of Sustainability. The semester concluded with the biannual night hike at the Acadiana Park Nature Station.

In the Fall semester, the organization hit the ground running with an audience of over 150 members at the first meeting late in August. At our second meeting in early September, Brad Glorioso, with the USGS, presented information about some of the Reptiles and Amphibians that can be found in Louisiana. He even brought a few specimens for students to hold. The organization also hosted a pool party at Bourgeois Hall in the afternoon where BBQ hamburgers, snacks, and drinks were served and a game of pool volleyball was played. In late September, over 20 members turned up for the Night Hike at the Acadiana Park Nature Station. In October, the organization volunteered to help with trash pickup and recycling for Festival Acadien held at Girard Park and the Black Pot Festival held at Vermillionville. The semester was concluded with a

paddle trip to Lake Martin and a campout in Kisatchie National Forest. Thank you to faculty members Patricia Mire, Kyle Patton and Sherry Kravesky for your time and effort in enriching our students' experiences in the department!

## Mentoring Matters 2016

The Department of Biology Mentoring Matters Program held its first training session for mentors in the fall semester, 2016. Mentors learned how to listen carefully and how to ask probing questions that shed light on the topics their mentees struggle with. The satellite sessions held in Edith Garland Library had a better attendance during 2016 and the hours of service expanded to include evening hours, Monday to Thursday 8 am to 8 pm a Mentoring Matters tutor is ready to help. The group assists students in introductory biology for majors and non-majors as well as the labs for those classes. We also help students in anatomy, genetics and microbiology. The success of the group has become contagious, as new Mentoring Matters programs are scheduled to start in Chemistry and Computer Science. Finally, we have joined forces with The Learning Center (TLC) and next year our mentors will train alongside this group.

## Student Organization Creates Opportunities



Manos Unidas is a new student organization initiated by biology majors. Manos Unidas (Helping Hands) helps UL students fundraise to be able to go on service learning trips, usually internationally, to get hands-on experience in nursing, environmental protection, education, pharmacy, physical therapy, engineering, and dentistry. So far several biology majors have participated in medical and dental clinics in Peru and Mexico and earned academic credit for BIOL 417 internships.

## Usher Syndrome Symposium

Last August, the UL-Lafayette Biology Department co-hosted the Usher Syndrome in Louisiana Symposium. Usher Syndrome is a genetic form of

deaf-blindness that came with the Acadians to Louisiana and created the largest population of deaf-blind citizens in the United States. The symposium was organized by geneticist Dr. Jennifer Lentz from LSU Health Sciences Center, several UL-Lafayette alumni who are parents of children with Usher Syndrome and have launched nonprofits, and Dr. Phyllis Baudoin Griffard on the Biology faculty. It was attended by over 100 deaf-blind citizens, their interpreters and families. A team of undergraduate and graduate students were on hand to help.

## Freshman Biology Research Initiative

This Spring, freshman biology majors displayed a remarkable commitment to using the scientific method by launching a Bird Mortality Study to check anecdotes about frequent bird deaths around Wharton and Billeaud Halls, possibly by crashing into windows. Teams walked the perimeter and stairwells of each building every day all semester and reported only two dead birds during the 4-month study period. Their finding allowed the concerned members of the biology community to postpone planned interventions such as installing decals. However, they recommend that the study continue to rule out seasonal variation.

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## Awards and Honors

### Faculty Honors

**Beth Stauffer** was named a Louisiana Discovery-Integration-Application Fellow by the Louisiana Sea Grant College Program

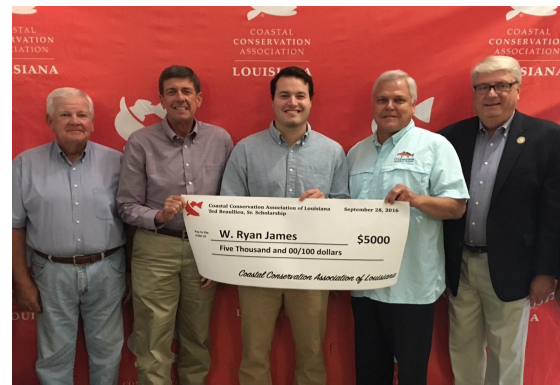
**Pegge Alciatore, Bruce Felgenhauer** and **Penny Antley** were named Outstanding Advisors in 2016.

**Mark Hester** was named 2016 Outstanding Professor, Ray P. Authement College of Sciences, University of Louisiana at Lafayette

**Patty Mire** was named 2016 Outstanding Undergraduate Research Mentor Award for 2014-2016

## Graduate Honors

Continuing graduate students were first authors on 12 peer-reviewed **publications**, coauthors on 8 publications, and submitted 9 additional manuscripts that were still in review at the end of the year. Students presented 23 off-campus seminars, and gave 80 conference **presentations** in 2016. Students who graduated in 2016 had additional publications and presentations that are not listed here. Students also earned **awards** for their research and service at local through international levels. Below are some examples of awards made to students in the program.



Congratulations to **Ryan James**, doctoral student in Dr. Nelson's lab. Ryan was the recipient of the Ted Beaulieu Sr. Coastal Conservation Association (CCA) Louisiana Scholarship.

In 2007, the CCA was given a generous gift by the family of Mr. Ted Beaulieu, Sr. of Lafayette. It is Mr. Beaulieu's wish that the money be used to fund an annual endowed scholarship of \$5,000 to be awarded to a University of Louisiana at Lafayette graduate student whose work contributes to the understanding of coastal wetlands loss, conservation or restoration in Louisiana or marine fisheries resource management in the Gulf of Mexico region. Ryan received the award for his upcoming research into the connectivity of coastal systems.

**Sanjana Banerjee, Eric Tobin, and Brandon Waltz** gave a presentation on biodiversity & conservation to the Episcopal School of Acadiana.

**Maxwell Bernt** gave a guest lecture at the University of Washington Friday Harbor Labs: Diversification in deep channels: a molecular phylogeny of the ghost

knifefishes (Gymnotiformes: Apterontidae). Max also gave a guest lecture in the Departamento de Biología Universidad Nacional de Asunción, Paraguay: The ghost knifefishes of South America: A systematic overview.

**Chitra Ajala** won the Tom Scott Award and 1st place Graduate Poster Presentation at 32nd Annual Meeting of the American Society of Gravitational and Space Research, Cleveland, Ohio. Chitra also served as Student Adviser for the American Society of Gravitational and Space Research Student Organization.

**Ana Paula Costa** was an invited participant on the Scientific Sub-Committee in Small Cetaceans, Annual Meeting of the International Whaling Commission Scientific Committee (SC/66b), Slovenia.

**Jack Craig** and **Lesley Kim** gave a joint invited presentation on Taxonomy Systematics and Biogeography of Neotropical Electric Fishes at the University of San Marcos, Peru.

**Andrea Edge** served as Student President of American Society for Gravitational and Space Research Student Organization.

**Kory Evans** gave a guest lecture at the University of Washington Friday Harbor Labs: Modularity begets brachycephaly: Repeated patterns of neurocranial evolution in Neotropical electric fishes.

**Marco Franco** was named GoMRI Scholar by the Gulf of Mexico Research Initiative.

**W. Ryan James** was awarded a National Science Foundation Antarctic Service Medal.

**Scott Jones:** SWS–SCC/SWS–SAC/GERS Joint Meeting Travel Award, Society of Wetland Scientists South Central Chapter, Gulf Estuarine Research Society. He was also a guest speaker at Ascension Episcopal School in the spring and at Eunice High School in the fall, and served as a volunteer judge for the Louisiana Region VI Science and Engineering Fair in the spring.

**Shelcie Menard** gave a presentation Future Faculty Career Exploration Program, Rochester Institute of Technology, New York: What did you say? Hair bundle resiliency in sea anemones.

**David Penning** won the Frederick H. Stoye Award for best oral presentation in physiology/physiological ecology from the American Society of Ichthyologists and Herpetologists. David also gave a presentation at the 8th World Congress of Herpetology in China, and immediately upon his return started as a new Assistant Professor of biology at Missouri Southern State University in the fall.

**Eric Tobin** helped run the Summer Camp Bird Banding workshop at Bluebonnet Swamp, Baton Rouge, Louisiana.

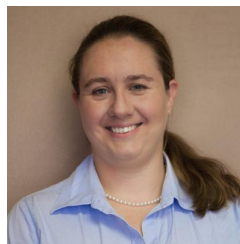
**Erik Yando:** Won 1st Place Student Oral Presentation, Gulf Estuarine Research Society. Erik also won the Wetland Foundation Seneca Award.

**Mirka Zapletal:** Won Best Student Presentation in the Wildlife Technical Session, Southeastern Association of Fish and Wildlife Agencies Conference, Louisiana; the award was given by the Southeast Section of The Wildlife Society.

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## New Faces in 2016

We are fortunate to replace recent retirements with two new graduate faculty members.



**Dr. Kelly Robinson** joined the faculty as an Assistant Professor in January. She obtained a Ph.D. in Marine Science, University of South Alabama. Kelly conducted postdoctoral research at the University of Southern

Mississippi and Oregon State. Her research explores how marine zooplankton, and particularly jellyfish, populations respond to climate-related and anthropogenic perturbations. In addition to setting up her research program here, she is developing courses in spatial analyses, climate change, and plankton ecology.





In August, **Dr. Ritwij Kulkarni** joined our faculty as an Assistant professor. He has a doctorate in Microbial Pathogenesis from Stony Brook University, and conducted post-doctoral research at Columbia and Louisiana State Universities.

His research focuses on mucosal immunology with recent projects on both respiratory and urinary tract infections. Ritwij is developing courses in immunology and pathology and setting up his lab.



This year the department hired **Dr. Will Schmidt** to coordinate the instruction of most of our online coursework related the kinesiology and allied health. He received his

doctorate from the department. In addition to teaching anatomy, physiology, and basic biology, Will is conducting research on Red Algae evolution, genomics, ecology and biogeography.



Late in 2016, we were fortunate to add **Dr. Sophie Plouviez** to our faculty. A native of France, Sophie obtained her doctorate from University Pierre et Marie Curie and worked as a postdoc here with **Dr.**

**Neigel**. She will be overseeing our growing instrumentation resources and will provide training students interested in using our equipment. With the retirement of **Garrie Landry** she will also help maintain the herbarium, as well as offering coursework in biodiversity and genetic techniques. Finally she will be pursuing her research in the areas of molecular evolution, genomics and bioinformatics.



**Garrie Landry Retires (sort of)** After 35 years of service to the University as both instructor and herbarium curator, Garrie Landry retired in May. With his long

record of outstanding service Garrie's retirement is well deserved. However, Garrie remains active involved in departmental life volunteering his services, both in teaching a course and helping continue to manage our plant collections. He has also taken a new position with the McIlhenny Company, as Botanist at Avery Island. Congratulations Garrie!

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## Graduate Degrees Conferred

### Doctor of Philosophy in Environmental and Evolutionary Biology

**Blankson, Emmanuel.** Dissertation: The Effect of Bioturbation on Transport, Bioavailability and Toxicity of Lead (Pb) in Freshwater Laboratory Microcosms; Advisor: **Dr. Paul Klerks**

**Camacho, Olga.** Dissertation: Systematics of brown macroalgae (Phaeophyceae) with an emphasis on taxa from the Western Atlantic and Gulf of Mexico; Advisor: **Dr. Suzanne Fredericq**

**Darnell Baker, Angela.** Dissertation: Impacts of human disturbance on carnivores in protected areas; Advisor: **Dr. Paul Leberg**

**Heestand Saucier, Esprit.** Dissertation: Phylogenetic Studies of the Deep-Sea Bamboo Corals (Octocorallia: Isididae: Keratoisidinae); Advisor: **Dr. Scott France**

**Jackson, Latonya.** Dissertation: The effects of 17 $\alpha$ -ethinylestradiol in the live-bearing fish *Heterandria formosa*; Advisor: **Dr. Paul Klerks**

**Mace, Marvin.** Dissertation: Population Dynamics of Juvenile White Shrimp *Litopenaeus setiferus* in the Sabine Lake Estuary; Advisor: **Dr. Lawrence Rozas**

**Moore, Jocelyn.** Dissertation: Control of *Aspergillus flavus* infection and growth; Advisor: **Dr. Caryl Chlan**

**Penning, David.** Dissertation: The Mechanisms of a Successful Intraguild Predator; Advisor: **Dr. Brad Moon**

**Richards, Joseph.** Dissertation: Systematics of rhodolith-forming taxa of Corallinophycidae (Rhodophyta) from the Northwestern Gulf of Mexico and Panama; Advisor: **Dr. Suzanne Fredericq**

**Sauvage, Thomas.** Dissertation: Cryptic tales in the siphonous green algae (Bryopsidales, Chlorophyta); Advisor: **Dr. Suzanne Fredericq**

## Master of Science in Biology, Non-Thesis

**Johnson, Renika.** Advisor: **Dr. Caryl Chlan**

**McGrail, Ashley.** Advisor: **Dr. Bruce Felgenhauer**

## Master of Science in Biology, Thesis

**Mathai, Sumreeta.** Thesis: The mechanics of self-medication with *Lespedeza cuneata* in response to gastrointestinal nematode infection; Advisor: **Dr. Alan DeRamus**

**Pecnik, Simon.** Thesis: Phylogenetic analysis of North American representatives of the brachyuran genus *Palicus*, with focus on gonopod morphology and mitochondrial gene sequences; Advisor: **Dr. Darryl Felder**

**Shirreff, Lisa.** Thesis: Characterization of an *M. marinum* Vaccine: Examination of Both Mucosal and Systemic Immunity in a Fish Model; Advisor: **Dr. Don Ennis**

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## Your Gifts Make a Difference!

### Help Us Build an Undergraduate Research Facility!

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. If you have other wishes about the use of your donation, they can be noted here.

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

This year we will be assigning all of contributions, unless you note otherwise, to developing an undergraduate research lab. This will be space where we can provide undergraduates with the skills and experience to make research contributions. This lab and associated training is part of a program wide effort to promote research experience in undergraduate education.

We are currently renovating a space in Billeaud Hall to serve this purpose. However, funds to purchase supplies and necessary instrumentation to support this effort are limited to a grant for \$34,640 awarded to Sherry Kravesky and Will Schmidt for this purpose. Any additional equipment will be purchased as funds allow, so getting this lab up and functioning would really benefit from your help. Thank you for any gift you provide supporting the department's activities, including our initiative to promote undergraduate research.

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## 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](mailto: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.

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.

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## 78 Undergraduates Receive Biology Degrees In 2016

Lauren Alexander  
Audrey Almeida  
Brady Baker  
Joshua Benoit  
Jeremy Benoit  
Thomas Bergeaux  
Brennan Bergeron  
Cheyene Blanchard  
Emilie Bollich  
Meryl Boutte  
Braylon Broussard  
Emily Bruce  
Robert Burke  
Carlie Callais  
Branson Cambre  
Melissa Cavanaugh  
Zoe Chatman  
Robert Cook  
Ashley Dauphin  
Roslyn Davis  
Tameka Davis  
Tanner DuCote  
Logan Dugas  
Ashley Duhon  
Misty Ellis  
Victor Fields-Meaux  
Taylor Fisher  
Adam Galliano  
Lilian Gathanga  
Cody Glaviano  
Payton Gremillion  
Tyce Hebert  
Frank Higgins

Ahki Jackson  
Chelse Jones  
Alyssa Jones  
Madison Lambert  
Trevor LeGrand  
Heaven Lilliman  
Hailey Magar  
Juliane Mahoney  
Cherese Mallet  
Victoria Marcil  
Jacob Martin  
Danielle Mauldin  
Alyse Meaux  
Hailey Meche  
Daniel Mire  
Vivian Nguyen  
Dat Nguyen  
Zachary Oge  
Aashikaben Patel  
Zachary Pitre  
Sierra Poirier  
Gerardo Prudhomme  
Willie Ricks  
John Roethlisberger  
Alexis Romero  
Sarah Romero  
Jordan Rotolo  
Gabrielle Sandord  
Brittany Savant  
Morgan Savoie  
Ashley Schimschock  
Amalia Shaik  
Alexis Stokes  
Hayden Stubbs  
Kross Theriot  
Rithika Thirumal  
Caitlin Vincent  
Kaitlynn Walker  
Chyna Washington  
Darrius Williams  
Jaduh Williams  
Laramie Williams  
Jina Wiltz  
Noah Wimberly  
Tori Young

**Congratulations and best wishes to all of our 2016 graduates!**

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