**News from Biology, 2021 – 2022**

**Faculty**

**Dr. Stephen Banks** was awarded a $2,600 Tech Free grant from LSUS in 2022 for his proposal entitled “Printers for the General Principles of Biology Teaching Laboratory”.

**Dr. Marisa Connell**, currently a postdoctoral fellow at SUNY Upstate Medical University, Syracuse, will join the faculty in August 2022. Dr. Connell is a developmental neurobiologist who uses Drosophila (fruit fly) as a model system to study stem cells in the brain.

**Dr. Santosh D’Mello** was awarded a $40,000 grant by the Louisiana Biomedical Research Network (LBRN) in February 2022 for research on a project entitled “Preclinical Development of Small Molecule Therapeutics for Alzheimer’s Disease.”

**Dr. Santosh D’Mello** was awarded a $5,000 Faculty Research and Development **Grant** (FRDG) from LSUS in October 2021 entitled “Understanding brain development through the analysis of MeCP2”. Dr. D’Mello was awarded another FRDG in April 2022 entitled “Acquisition of essential equipment for biological research.”

**Drs. Amy A. Erickson** and **Peter Siska** were awarded a Tech Fee Grant from LSUS entitled “Supplying Biology Classrooms with Updated Equipment and Software“ which will support the program in Geographic Information Science (GIS).

**Dr. Amy A. Erickson** was awarded a $1,500 FRDG from LSUS, entitled “Travel to the International Interdisciplinary Conference on the Environment” that will support travel to and participation in the upcoming 27th IICE conference to be held in Birmingham, AL, Oct 6-8, 2022.

**Dr. Amy A. Erickson** was awarded two FRDGs from LSUS totaling $6,500 entitled “Supplies and equipment for project on environmental DNA”, which will be used in the study of species that are invasive or are of concern.

**Dr. Amy A. Erickson**, in conjunction with **Dr. Peter Siska**, **Xingwen Chen**, **Gary Joiner**, and **Michael Maguigan**, were awarded a $61,400 Departmental Enhancement Grant by the Louisiana Board of Regents entitled “Providing GIS training to the LSUS community and Northwest Louisiana”, which will provide hardware and software for training LSUS students, faculty members, and the regional community in GIS and geospatial statistics.

**Amy A. Erickson** was named a Member of the Advisory Council of Interdisciplinary Environmental Association (IEA) in January 2022.

**Dr. Elahe Mahdavian** published a paper entitled “ YM155 induces DNA damage and cell death in anaplastic thyroid cancer cells by inhibiting DNA topoisomerase IIα” in Molecular Cancer Therapeutics (an AACR journal). <https://aacrjournals.org/mct/article-abstract/21/6/925/699190/YM155-Induces-DNA-Damage-and-Cell-Death-in?redirectedFrom=fulltext>

**Dr. Elahe Mahdavian** was awarded a $9,300 Tech Fee grant by LSUS in April 2022 for a project entitled “Computer software for student instructions and research at LSUS.”

**Dr. Stuart Nielsen** spent the summer in Brazil as a Fulbright Fellow performing fieldwork to collect lizards for his research on reptile sex chromosome evolution and was also recently awarded a $5,000 FRDG from LSUS to generate sequence data from the samples he brought back.

**Dr. Stuart Nielsen** recently co-authored a paper entitled "Chromosome-Level Genome Assembly Reveals Dynamic Sex Chromosomes in Neotropical leaf-Litter Geckos (Sphaerodactylidae: *Sphaerodactylus*)" published in the *Journal of Heredity* (https://doi.org/10.1093/jhered/esac016). This is the first chromosome-level genome assembly for a gecko!

**Dr. Vonny Salim** was awarded a $300,000 grant from the LBRN for her three-year Full Project entitled “Elucidation of Plant-Derived Drug Biosynthetic Pathways and Molecular Mechanisms as Anticancer Agents”. <https://www.lsus.edu/lsu-shreveport-assistant-professor-of-biological-sciences-dr-vonny-salim-awarded-300000-grant-for-three-year-anticancer-research-project>

**Dr. Vonny Salim** tied for first place for a Faculty Oral Presentation Award for her presentation entitled "Elucidation of Plant-Derived Drug Biosynthetic Pathways and Molecular Mechanisms as Anticancer Agents" at the LBRN Annual Meeting 2022. <https://lbrn.lsu.edu/highlights/2022-01-31-LBRN-AM-Awards.html>

**Vonny Salim** was awarded $13,455 LSUS Technology Fee grant in April 2022, for a proposal entitled "Quantitative Thermocycler Technology in Biology Courses".

**Peter Siska**, an expert in Geographic Information System **(**GIS) delivered a lecture for the Louisiana Academy of Sciences and was in the Abramson Lecture Series organized by the College of Arts and Sciences at LSUS.

**Peter Siska** was part of a Caddo Commissioners meeting in support of Resolution 17 and organized a meeting in the Shreveport Mayor’s office to develop plans for the environmental protection of Cross Lake water. He was also interviewed by the Catalania TV Station, Spain, on his views on fracking and the environmental damage it causes.

**Stephanie Villalba** was awarded a $10,250 LSUS Technology Fee Grant entitled “iPads for Biology Lab”

**Stephanie Villalba** was a co-author on a paper published in Pediatric Surgery International in 2021 entitled “Self-expanding intestinal expansion sleeves (IES) for short gut syndrome” (<https://link.springer.com/article/10.1007/s00383-021-05024-8>)

**Graduate students**

**Jessica Mast**, in conjunction with Advisor Amy A. Erickson, was awarded a $34,500 Tech Fee Grant from LSUS entitled “Supplying biology labs with compound light microscopes” which will greatly increase hands-on opportunities for students in the classroom.

**Undergraduate students**

In May 2022, **Kylie White** and **Jeremiah Vance** were awarded $6,383 by the LBRN to conduct research under the mentorship of Drs. Stephanie Villalba and Kathryn Hamilton (LSU Health Science Center, Shreveport). The research project entitled “Expression of GAD isoforms in the adult mouse olfactory epithelium” is being conducted as part of the LBRN’s Summer Research Program.

In May 2021, **Keelin North** received an LBRN Undergraduate Summer Research award, working with Dr. Vonny Salim for his project entitled "Identification of Host Microbiota Relationships involved in Anticancer Alkaloid Biosynthesis.”

**Pearl Merry** an undergraduate student conducting medicinal plant research with Dr. Vonny Salim was recently awarded 4 scholarship awards - a total worth of $3,500 scholarships (Women in STEM, Women in Business, Women in Health Sciences, and Best Instrumentalist in Talent Award). She also presented her research poster at the Southeast Regional IDeA meeting 2021 in Puerto Rico, with her colleagues, Stephanie Provenzano, Ryan Miller, and Paul Erba, mentored by Dr. Vonny Salim.Link: https://lbrn.lsu.edu/highlights/2021-11-13-LBRN-Merry.html

In May 2021, **Supriya Karki** was awarded $14,585 by the LBRN to conduct research under the mentorship of Drs. Stephanie Villalba and Kathryn Hamilton (LSU Health Science Center, Shreveport). The research project entitled “Developmental stages of olfactory sensory neurons in neonatal life vs. adulthood” was conducted as part of the LBRN’s Summer Research Program.

In January 2022**, Supriya Karki** received 1st place for her poster presentation at the 20thLBRN Annual Meeting. Her poster entitled “Developmental Stages of Olfactory Sensory Neurons in Neonatal Life vs Adulthood”. The poster described research results from a project undertaken under the mentorship of Drs. Stephanie Villalba and Kathryn Hamilton (LSUHSC-Shreveport).

**Stephanie Provenzano**, mentored by Dr. Vonny Salim**,** won 1st place in the Undergraduate Poster Award at the 2022 9th Annual Louisiana Conference on Computational Biology and Bioinformatics. <https://lbrn.lsu.edu/highlights/2022-04-23-LBRN-2022ALCCBB-Awards.html>

**Andrew Gilbert** and **Hailey Brokenberry** were each awarded $5,000 by the LBRN in May 2022 to conduct research in Dr. Santosh D’Mello’s lab on brain degeneration. Andrew’s project is entitled “Identification of protective compounds against HDAC3-induced neuronal death”, whereas Hailey’s project is entitled “Identification of neuroprotective compounds using a cell culture model of Parkinson’s disease.”

Two undergraduate students working in Dr. Mahdavian’s lab**, Chelsey Jordan** and **Kalani Myles,** were awarded the 1st and 2nd prize at the annual LBRN meeting in January 2022 for their posters. Chelsey’s poster was entitled “Assessment of student appreciation for applied bioinformatics and computational drug discovery methods in a project-based course” and Kalani’s poster was “Computer-aided drug discovery for COVID-19 using virtual screening and molecular docking.”

**Luis Pena-Marquez**, a student in Dr. Mahdavian was awarded a $6,000 LBRN summer research grant to support for his project entitled “Using computational drug repurposing methodology to identify promising drug candidates for COVID-19”.

**Curriculum enhancement**

**Dr. Stuart Nielsen** will be teaching a new special topics course "BIOS 490: Biology of Islands" during the Summer2023 term.

**Dr. Amy A. Erickson** will be teaching a new special topics course “BIOS 490: Louisiana Coast” during Spring 2023.

The Department of Biological Sciences will be adding two new concentrations to it undergraduate degree – a concentration in Neuroscience and in Health Sciences.

Three new neuroscience courses were added to the department’s course offering in 2021-2022. **Dr. D’Mello** is teaching Introductory Neurobiology and Molecular Basis of Brain Development and Degeneration. **Dr. Villalba** is teaching Clinical Neuroanatomy.

Several research opportunities are available for undergraduate and graduate students. If you are a student interested in the US Dept. of State's J. William Fulbright **P**rogram or gaining lab experience generating and bioinformatically analyzing NextGen sequence data, please reach out to **Dr. Nielsen**. Other Biology faculty looking for students to conduct research in their labs include **Drs. Aamodt, Connell, D’Mello, Erickson**, and **Villalba**.

**Research Infrastructure**

LSUS is in the process of constructing a Science Building Annex which will be used for research-related activity, including the housing of rodents and reptiles.

The Department of Biological Sciences recently constructed a tissue culture-microscopy suite.

Over the past year the Department of Biological Sciences acquired several pieces of equipment that will be used for both research and teaching purposes, including a fluorescence microscope, a research grade light microscope with phase contrast, a qPCR machine, a -800C freezer, and an e-DNA backback.