GERGANA G. NESTOROVA, Ph.D.
Associate Professor of Biological Sciences
MSNT Program Coordinator
Louisiana Tech University
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EDUCATION

Ph.D. Molecular Sciences and Nanotechnology, Louisiana Tech University, Louisiana, 2014

B.S. Biology, Coastal Carolina University, Conway, South Carolina, 2006

POSITIONS

2022-present: Associate Professor of Biological Sciences, Louisiana Tech University, Ruston, LA

2017-present: MSNT Program Coordinator, Louisiana Tech University, Ruston, LA

2016-2022: Assistant Professor of Biological Sciences, Louisiana Tech University, Ruston, LA

2014-2016: Research Assistant Professor, Louisiana Tech University, Ruston, LA

2012-2013: Scientist I, Biovations, LLC, Ruston, LA

2007-2009: Research Assistant II, Stanford University, CA

FEATURED RESEARCH

- Our one-step gene sampling technology for analysis on ISS was discussed in the Louisiana Tech University Beyond 1894 podcast Future Farmers of Our Solar System: Growing Gardens in Microgravity, 1894.latech.edu/podcast/.
- Our thermoelectric microfluidic platform was featured by Elveflow, www.elveflow.com/microfluidic-reviews/general-microfluidics/thermoelectric-sensor/.

GRANTS

- NASA EPSCoR R3 (PI) A lab-on-a-chip platform for bacterial enrichment and single-step RNA purification for rapid screening of spacecraft microbiome. 09/2023-08/2024.
- NSF MRI: Track 1 (co-PI) Acquisition of a Nanoparticle Tracking Analyzer to Enhance Nanomaterial Research. 09/2023-08/2024.
- NASA SBIR Phase I (Subcontract) One-step microbial sample prep device for MinION sequencing. 08/2023-02/2024.
- NSF EPSCoR RII Track-4 (PI) ExoPRIME Technology and Mass Spectroscopy Proteomic Analysis of Immunocaptured Exosomes for Liquid Biopsy. 01/2023-12/2024.
- LaSPACE REA (PI) Gene Sampling Technology for Microbial Screening in Space.09/01/202208/31/2023.

- LaSPACE GRSA (PI) Extracellular vesicle-based therapeutics for reducing mitochondrial dysfunction in space. 08/15/2022-08/14/2023.
- LaSPACE GSRA (PI) Long-term stability assessment of gene sampler tool for genetic analysis on ISS.08/15/2021-08/15/2022.
- LaSPACE GSRA (PI) Astrocytes-derived exosomes for reducing neuronal oxidative DNA damage in space.08/15/2021-08/15/2022.
- IFM Research Innovation Initiative (RII)(Co-PI) Development of a microfluidic device for screening uptake of micro-and nano-materials. 01/16/2021-10/31/2021.
- LaSPACE Special Supplement Competition (SSC) (PI): ExoSense: technology for solid-phase purification and genetic analysis of exosomes in space. 02/24/2020-08/31/2020.
- NASA EPSCoR International Space Station (ISS) Flight Opportunity (Science-I): One-step sampling tool to improve the ISS Bioanalytical Facility. 01/01/2019-12/31/2021.
- LaSPACE REA (PI): Exploring long-term chemistries for genetic analysis in space. 09/01/201805/31/2020.
- LaSPACE Research Enhancement Award Program (REA) (PI): Exosomal microRNA expression as biomarkers for assessment of radiation-induced neurological injury. 09/01/2018-02/29/2020.
- LaSPACE LURA (PI): Effect of radiation on mitochondrial mass and oxidative activity..09/01/2018-08/31/2019.
- LaSPACE LURA (PI): Effect of high-energy radiation on the formation of 8-hydroxydeoxyguanosine.09/01/2018-08/31/2019.
- Louisiana Board of Regents Research Competitiveness Subprogram (RCS) (PI): ExoSense: Labon-a-chip Platform for Solid-Phase Purification of Exosomes. 06/2018-06/2022.
- LaSPACE LURA (PI): Effect of radiation on the rate of mitochondrial DNA damage and repair. 09/2017-08/2018.
- Board of Regents Support Fund Superior Graduate Fellows in Molecular Sciences and Nanotechnology 2016-2021 (Co-PI). 08/2016-07/2021. PI: Dr. Ramu Ramachandran,
- NSF SBIR Phase I and IB (PI): Thermoelectric DNA Sequencer for Mutation Detection, award #1141957. 01/ 2012- 12/2012.

INTELLECTUAL PROPERTY DISCLOSURE

1. G. G. Nestorova, "Thermoelectric ELISA Method for Detection of Nucleic Acid, RNA, and Bacteria Cells", provisional patent, serial number 62/268, 941, filed 12/17/15 by Louisiana Tech University.
2. G. G. Nestorova, "Thermoelectric Method for Performing ELISA", provisional patent, serial number 62/107,613, filed 1/26/15 by Louisiana Tech University.

PEER-REVIEWED JOURNAL PAPERS

3. D. Gaines, E. Brodsky, H. Kaur, and G. G. Nestorova, RNA capture pin technology: investigating long-term stability and mRNA purification specificity of oligonucleotide immobilization on gold and streptavidin surfaces, *Analytical and Bioanalytical Chemistry*, 2023; 1-13.
4. D.K. Mills and G. G. Nestorova. Biosensor Development and Innovation in Healthcare and Medical Applications, *Sensors*, 2023; 23 (5), 2717.

5. G.G. Nestorova, N. Crews, A. K. Schramm, R. A. Aquilina, M. Parra, M. Chin, T. Chinn, L. Hee, Spaceflight validation of one-step Gene Sampling tool for genetic analysis on the International Space Station, *Acta Astronautica*, 2022; 198: 225-232.
6. F.B. Hossain, S. M. I. Bari, and G.G. Nestorova, Cell co-culture microfluidics platform with an integrated hydraulic valve for investigation of signal-mediated interactions in the blood-brain barrier, *Biomed Sci Instrum*, 2022; 58(3).
7. C.D. Nwokwu, A.Y. Xiao, L. Harrison, G.G. Nestorova, Identification of microRNA-mRNA regulatory network associated with oxidative DNA damage in human astrocytes, *ASN Neuro*, 2022;14.
8. C. D. Nwokwu, S. M. I. Bari, K. H. Hutson, C. Brausell, G. G. Nestorova, ExoPRIME: Solid-phase immunoisolation and OMICS analysis of surface-marker-specific exosomal subpopulations, *Talanta*. 2022; 236: 122870.
9. D. Gaines and G.G. Nestorova, Extracellular vesicles-derived microRNAs expression as biomarkers for neurological radiation injury: risk assessment for space exploration, *Life Sciences in Space Research*. 2021.
10. S.M.I. Bari, F.B. Hossain, G.G. Nestorova, Advances in Biosensors Technology for Detection and Characterization of Extracellular Vesicles. *Sensors*, 2021;21(22): 7645.
11. K. H. Hutson, K. Wilis, C. D. Nwokwu, M. Maynard, G. G. Nestorova, Photon versus proton neurotoxicity: Impact on mitochondrial function and 8-OHdG base-excision repair mechanism in human astrocytes, *Neurotoxicology*. 2021; 82:158-166.
12. S. M. I. Bari, T. Holland, L. G. Reis, G. G. Nestorova, Numerical analysis of optimal design parameters for a cell co-culture microfluidic platform with an integrated pressure-controlled valve, *In ASME International Mechanical Engineering Congress and Exposition 2020;* 84607: V012T12A031. American Society of Mechanical Engineers.
13. S. M. I. Bari, L. G. Reis, and G. G. Nestorova, Numerical optimization of key design parameters of a thermoelectric microfluidic sensor for ultrasensitive detection of biochemical analytes. *Journal of Thermal Sciences and Engineering Applications.* 2020; 13(2).
14. S. M. I. Bari, L. Reis, and G. G. Nestorova, Calorimetric sandwich-type immunosensor for quantification of TNF-α. *Biosensors and Bioelectronics*. 2019; 126:82-87.
15. G. G. Nestorova, K. Hasenstein, N. Nguyen, M. A. DeCoster, and N. D. Crews, Lab-on-a-chip mRNA purification and reverse transcription via a solid-phase gene extraction technique. *Lab on a chip.* 2017; 17(6): 1128-36.
16. G. G. Nestorova, B. S. Adapa, V.L. Kopparthy, and E. J. Guilbeau. Lab on a Chip Label-free DNA Biosensor for Detection of Nucleic Acid Sequence. *Sensors and Actuators B: Chemicals*. 2016; 225: 174-80.
17. G. G. Nestorova, N. D. Crews, and E. J. Guilbeau**.** Theoretical and experimental analysis of thermoelectric lab-on-a-chip ELISA. *Microfluidics and Nanofluidics*. 2015; 19(4): 963-72.
18. G. G. Nestorova, V.L. Kopparthy, N. D. Crews, and E.J. Guilbeau. Thermoelectric lab-on-a-chip ELISA. *Analytical Methods*. 2015;7 (5):2055-63.
19. L. Shi, E. J. Guilbeau, G. G. Nestorova, and W. Dai. A mathematical model and numerical method for thermoelectric DNA sequencing. *Heat and Mass Transfer*. 2014; 50(5): 1–17.
20. C. Zhang, G. G. Nestorova, R. A. Rissman, and J. Feng, Detection and quantification of 8-hydroxy2′-deoxyguanosine in Alzheimer's transgenic mouse urine using capillary electrophoresis. *Electrophoresis*. 2013; 34 (15): 2268-74.

21. V. L. Kopparthy, S. M. Tangutooru, G. G. Nestorova, and E. J. Guilbeau, Thermoelectric microfluidic sensor for biochemical applications. *Sensors and Actuators B: Chemical*. 2012; 166: 608-15.
22. S. M. Tangutooru, V. L. Kopparthy, G. G. Nestorova, and E.J. Guilbeau., Dynamic thermoelectric glucose sensing with layer-by-layer glucose oxidase immobilization. *Sensors and Actuators B: Chemical*. 2012; 166: 636-41.
23. G. G. Nestorova, and E. J. Guilbeau, Thermoelectric Method for Sequencing DNA. *Lab on a Chip.* 2011; 11 (10): 1761-69.
24. S. M. Tangutooru, V. L. Kopparthy, R. Gumma, G. G. Nestorova, and E. J. Guilbeau., Dynamic Thermoelectric Microfluidic Glucose Sensing with layer-by-layer Glucose Oxidase Immobilization. *International Journal of Medical Implants and Devices*. 2011; 5 (2): 66.
25. J. Walley, D. Kelley, G. G. Nestorova, D. Hirschberg, and K. Dehesh, Arabidopsis deadenylases AtCAF1a and AtCAF1b play overlapping and distinct roles in mediating environmental stress responses. *Journal of Plant Physiology*. 2010; 152 (2): 866-75.
26. K. D. Wilson, Z. Li, R. Wagner, P. Yue, P. Tsao, G. G. Nestorova, M. Huang, D. Hirschberg, P. Yock, T. Quartermoust, and J. Wu, Transcriptome Alteration in the Diabetic Heart by Rosiglitazone: Implications for Cardiovascular Mortality. *PLoS ONE*. 2008; 3(7): e2609.

BOOK CHAPTER

24. G. G. Nestorova, Thermoelectric Lab-On-A-Chip Technologies: Design, Applications, Challenges, and Future Trends, *Advances in Engineering Research*. 2017; (19), Ed. Victoria M. Petrova, Publisher: Nova Science Publishers, Inc.,

CONFERENCE PAPERS AND ABSTRACTS

25. G.G. Nestorova, N.D. Crews, R. Aquilina, A.K. Schramm, L. Anderson, T. Boone, M. Chin, T. Chin, L. Hee, D. Jelen, J. Shimada, One-step gene sampling tool for genetic analysis on the ISS, *2022 Point-of-Care & Rapid Diagnostics*, Long Beach, CA, December 2022.
26. D. Gaines, E.Brodsky, H. Kaur, G.G. Nestorova, RNA capture pin technology: assessment of mRNA enrichment via high throughput RNA seq, *9th Annual Louisiana Conference on Computational Biology and Bioinformatics*, April 2022.
27. G.G.Nestorova, C.D.Nwokwu, SM.I.Bari, Microprobe-based technology for antigen-specific purification of exosomes for OMICS analysis, *ASBMB Meeting*, April 2022, Philadelphia, PA. The FASAB Journal 36(S1).
28. G.G. Nestorova, N.D. Crews, R. Aquilina, A.K. Schramm, L. Anderson, T. Boone, M. Chin, T. Chin, L. Hee, D. Jelen, J. Shimada, One-step gene sampling tool for genetic analysis on the ISS, *2021 Fall LaSPACE Council Meeting*, Baton Rouge, LA, October 2021.
29. G.G. Nestorova, N.D. Crews, R. Aquilina, A.K. Schramm, L. Anderson, T. Boone, M. Chin, T. Chin, L. Hee, D. Jelen, J. Shimada, One-step gene sampling tool for genetic analysis on the ISS, *2021 Space Summit*, Boston, MA, September 2021.
30. C.D. Nwokwu, A. Xiao, L. Harrison, G. G. Nestorova, Small RNA Sequencing and Computational Analysis Identifies Differentially Transcribed MicroRNAs that Regulate Nuclear Oxidative Damage in Human Astrocytes Exposed to Sodium Dichromate, 8*th Annual Louisiana Conference on Computational Biology and Bioinformatics*, April 2021.

31. C.D. Nwokwu, S. M. I. Bari, K.H. Hutson, G. G. Nestorova, ExoSense: solid-phase immunoisolation and genetic analysis of pure intact exosome populations, *95th Louisiana Academy of Science Meeting*, March 2021.
32. K. H. Hutson, K. Willis, C. D. Nwokwu, M. Maynard, G. G. Nestorova, Photon versus proton neurotoxicity: impact on mitochondrial function and 8-OHdG base-excision repair mechanism in human astrocytes, *95th Louisiana Academy of Science Meeting*, March 2021.
33. S. M. I. Bari, L. G. Reis, G. G. Nestorova, Lab-on-a-chip immunosensor for the quantification of TNF-α: experimental results and 3D numerical simulation of heat transfer, *95th Louisiana Academy of Science Meeting*, March 2021.
34. D. Gaines, N.D. Crews, G.G. Nestorova, One-step nucleic acid sampling tool for genetic analysis on the International Space Station, *95th Louisiana Academy of Science Meeting*, March 2021.
35. S. M. I. Bari, L. G. Reis, G. G. Nestorova, Numerical analysis of the optimal design parameters of a thermoelectric microfluidic sensor, *COMSOL Conference 2020 North America*, October 7-8th 2020.
36. C.D. Nwokwu, A. Y. Xiao, L. Harrison, G. G. Nestorova, Genetic and Epigenetic Modulation of DNA Repair in Response to Sodium Dichromate-Induced Oxidative DNA Damage in Human Astrocytes, 27th Annual Meeting for of Society for Redox Biology and Medicine, *Free Radical Biology and Medicine* 159 (2020): S118.
37. C.D. Nwokwu, S. M. I. Bari, G.G.Nestorova, 'Smart' microprobes imbued with recognition element as a sensitive bioanalysis platform for exosomes, ASEMV 2020 Annual Meeting, *Extracell Vesicles Circ Nucleic Acids* 2020;1:20-56.
38. R. Ledbetter, T. Holland, D. Gaines, N.D. Crews, G.G. Nestorova, One-step nucleic acid sampling technology for genetic analysis on the International Space Station, *94th Louisiana Academy of Science Meeting*, Alexandria, LA, 2020.
39. K. H. Hutson, K. Willis, C. D. Nwokwu, G. G. Nestorova, Ionizing radiation-induced alteration of mitochondrial copy number and base-excision repair capabilities in human astrocytes, *94th Louisiana Academy of Science Meetin*g, Alexandria, LA, 2020.
40. S. M. I. Bari, L. G. Reis, G. G. Nestorova, Calorimetric sandwich-type immunosensor for quantifying TNF-α: experimental results and numerical analyses of heat transfer for maximized detection sensitivity, *94th Louisiana Academy of Science Meeting*, Alexandria, LA, 2020.
41. C. D. Nwokwu, S. M. I. Bari, G. G. Nestorova, 'Smart' microprobes imbued with recognition element as a sensitive bioanalysis platform for exosomes, *94th Louisiana Academy of Science Meeting*, Alexandria, LA, 2020.
42. N. D. Crews and G. G. Nestorova, One-step gene extraction tool, *Payload Operation and Integration Working Group (POIWG) Meeting #46,* Huntsville, AL, 2019.
43. D. Gaines, R. Ledbetter, N.D. Crews, G.G. Nestorova, One-step nucleic acid sampling technology for genetic analysis on the International Space Station, *2019 Space Summit*, Coronado, CA.
44. C. D. Nwokwu, S. M. I. Bari, G. G. Nestorova, Microprobe-based platform for rapid immunocapture and genetic analysis of exosomes, 2019 *Circulating Biomarkers Congress*, Coronado, CA.
45. S. M. I. Bari, L. G. Reis, G. G. Nestorova, Microfluidic calorimetric immunosensor: experimental results and COMSOL simulations of heat transfer in a microchannel, *APS 2019 March Meeting*, Boston, MA.
46. C. D. Nwokwu, S. M. I. Bari, G. G. Nestorova, Platform for Solid-Phase and Antigen-Specific Purification of Exosomes, *35th Southern Biomedical Engineering Conference (SBEC) MAS 2019; pp.34.*

47. S. M. I. Bari, L. G. Reis, G. G. Nestorova, Lab-on-a-chip thermoelectric immunoassay for detection of TNF-α: experimental results and COMSOL simulations of heat transfer, *35th Southern Biomedical Engineering Conference (SBEC) MAS 2019; pp.34.*
48. K. H. Hutson, C. D. Nwokwu, K. M. Willis, C. Vazquez, K. H. Hutson, G. G. Nestorova, Identification of miRNA-OGG1 mRNA interactions: small RNA sequencing and immunoprecipitation analysis, *LaSPACE Council Fall Meeting*, Shreveport, LA, 2018.
49. K. M. Willis, C. D. Nwokwu, K. H. Hutson, G. G. Nestorova, Effect of high-energy radiation on mitochondrial DNA copy number changes and 8OHdG levels in human astrocytes, *LaSPACE Council Fall Meeting*, Shreveport, LA, 2018.
50. S. M. Bari, G.G. Nestorova, Lab-on-a-chip immunoassay for thermoelectric quantification of TNFα, *34th Southern Biomedical Engineering Conference (SBEC) MAS* 2018; 63:132, suppl.1.
51. K. H. Hutson, K. M. Willis, A. Y. Xiao, L. Harrison, G. G. Nestorova**,** Identification of novel microRNAs that regulate OGG1 mediated DNA repair, *LaSPACE Council Fall Meeting*, Baton Rouge, LA, 2017
52. S. M. Bari, G. G. Nestorova, Lab-on-a-chip thermoelectric ELISA for detection of TNF-α, *Industry day conference*, Shreveport, LA, 2017.
53. K. Willis, G.G. Nestorova, OGG1 role in oxidative stress-induced DNA damage and repair, 2017 *ANS Research Symposium*, Louisiana Tech University, LA, 2017.
54. T. Pham, M. Hamideh, K. Willis, and G. G. Nestorova, Lab-on-a-chip thermoelectric ELISA technology for quantitation of TNF-α, *2017 ANS Research Symposium*, Louisiana Tech University, LA.
55. G.G. Nestorova, K. Hasenstein, and N.D. Crews, Lab-on-a-chip-meditated RNA extraction via steel solid-phase gene extraction probes, *LaSPACE Council Fall Meeting*, Ruston, LA, 2016.
56. G.G. Nestorova, K. Hasenstein, N. Nguyen, M. DeCoster, N. D. Crews. Lab-on-a-chip meditated RNA purification from 3D cell spheroids via solid-phase gene extraction technique, *2016 ASME Meeting*, Washington, DC, 2016.
57. D. Jana, D. Saint-Jean, S. Abdurakhimov, V. Kopparthy, G.G. Nestorova, N. Pal, N. Nguyen, P. Derosa, L. Sawyer, N. Crews, and M. DeCoster, Genetic Assessment of the Space Environment using MEMS Technologies, *2016 APS March meeting*, Baltimore, MD, 2016.
58. G.G. Nestorova, K. Hasenstein, and N.D. Crews, Lab-on-a-chip-meditated RNA extraction via steel solid-phase gene extraction probes, *Industry day*, LSUHS-Shreveport, LA, 2015.
59. G.G. Nestorova, N. D. Crews, and E.J. Guilbeau, Mathematical Simulations of Heat transfer and Fluid Dynamics in a Microfluidic Calorimeter with Integrated Thin-film Thermopiles, *2014 Annual Fall Meeting of the BMES*, San Antonio, TX, 2014.
60. G.G. Nestorova, V.L. Kopparthy, S.M. Tangutooru, R. Gumma, and E.J. Guilbeau, Effect of Hydrodynamic Focusing on Increased Sensitivity of Thermoelectric Method for DNA Sequencing, *2011 Annual Fall Meeting of the BMES*, Hartford, CT, 2011.
61. V.L. Kopparthy, S.M. Tangutooru, R. Gumma, G.G. Nestorova, and E.J. Guilbeau, Highly Sensitive Continuous Flow Micro-calorimeter for Biological Applications, *2011 Annual Fall Meeting of the BMES, Hartford*, CT, 2011.
62. G.G. Nestorova, V.L. Kopparthy, S.M. Tangutooru, R. Gumma, and E.J. Guilbeau, Thermoelectric method for sequencing by synthesis, *Lab-on-a-chip World Congress*, San Francisco, CA, 2011.

63. G.G. Nestorova, V.L. Kopparthy, S.M. Tangutooru, R. Gumma, and E.J. Guilbeau, Thermoelectric method for sequencing by synthesis, *Louisiana Academy of Science 85th Annual Meeting*, Monroe, LA, 2011.
64. S.M. Tangutooru, R. Gumma, V.L. Kopparthy, G.G. Nestorova, and E.J. Guilbeau, Fabrication and Characterization of Highly Sensitive Thin-Film Thermopiles, *Louisiana Academy of Science 85th Annual Meeting*, Monroe, LA (2011).
65. S.M. Tangutooru, V.L. Kopparthy, R. Gumma, G.G. Nestorova, E.J. Guilbeau, Dynamic Thermoelectric Glucose sensing with Layer-by-layer Glucose Oxidase Immobilization, *SBEC 27th Annual Meeting*. Arlington, TX, 2011.
66. J. Feng, C. Zhang, S. Wang, H. Xia H, B. Hollins, G. Chen, J. Spaulding, M. Circu, C. Rodriguez, G.G. Nestorova, M. Decoster, K. Murray, S. Soper, and T.Y. Aw, Monitoring Protein Oxidative damage in aging and Alzheimer's disease, *LBRN 9th Annual Meeting*, Shreveport, LA, 2011.
67. V.L. Kopparthy, S.M. Tangutooru, R. Gumma, G.G. Nestorova, and E.J. Guilbeau, Characterization of Microfluidic calorimeter for measuring small dynamic temperature changes, *2010 BMES Annual Meeting*, Austin, TX, 2010.
68. G.G. Nestorova, C. Zhang, and J. Feng, Quantitive determination of 8OHdG in Alzheimer transgenic mice urine using capillary electrophoresis with laser-induced fluorescence detection, *SFRBM 17th Annual Meeting*, Orlando, FL, 2010.

ACKNOWLEDGED CONTRIBUTIONS

68. Shen-Orr, S., Tibshirani, R., Khatri, P., Bodian, DL et al., Cell type-specific gene expression differences in complex tissues. *Nature Methods* 7, 287 – 289 (2010).
69. Pespeni, M., Oliver, T., Manier, M., and Palumbi, S., Restriction Site Tiling Analysis: accurate discovery and quantitative genotyping of genome-wide polymorphisms using nucleotide arrays. *Genome Biology* 11: R44 (2010).

MENTORING

Graduate students (chair)

2023-present Kristen Hutson, PhD Molecular Sciences and Nanotechnology

2021-present Ruth Stewart, Ph.D. Molecular Sciences and Nanotechnology

- 2021 LaSPACE GSRA
- 2022 LaSPACE GSRA
- 2021 ANS graduate research mini-grant

2022-present Matthew Franklin, MS Mechanical Engineering

2021-2023 Faria Binte, M.S. Molecular Sciences and Nanotechnology

- 2021 ANS graduate research mini-grant

2019-2021 Kristen Hutson, M.S. Molecular Sciences and Nanotechnology

- 2019 ANS graduate research mini-grant
- 2020 ANS graduate research mini-grant
- 1st place graduate poster presentation in Molecular/Biomedical Biology and Microbiology, 94th LAS meeting, 2020
- 2020 Davis-Flournoy Endowed Scholarship

- 1st place 3MT competition

2018-2023 Deriesha Gains, Ph.D. Molecular Sciences and Nanotechnology

- 2021 LaSPACE GSRA

2017-2021 Saif Mohamad Ishraq Bari, Ph.D. Engineering Micro and Nanoscale Systems

- 2018 CBERS research scholarship
- 2019 CBERS research scholarship
- 2018-19 TL James Endowed Scholarship
- 2019-20 Tech's Best Scholar Scholarship
- 2020 CBERS research scholarship
- 1st place graduate oral presentation in Material Science/Engineering, 94th LAS meeting.

2017-2021 Chukwumaobim Daniel Nwokwu, Ph.D. Molecular Sciences and Nanotechnology

- Best oral presentation award in 2018 Louisiana Tech University COES Research Symposium
- 2018-2019 TL James Endowed Scholarship
- 2019-2020 Smith PK Scholarship
- 2nd place graduate oral presentation in Molecular/Biomedical Biology and Microbiology, 94th LAS meeting, 2020
- 2021 CBERS research scholarship

Undergraduate students

2022-present Cassidy Husson, BS Biology

2022-2023 Cameron Bradford, BD Biology

2021-2022 Ryson Shelton, B.S. Biology

2020-2021 Clay Brausell, B.S. Biology

- 2021 CBERS undergraduate scholarship
- 2021 ANS undergraduate research mini-grant 2019-2021 Francesca Weiss, B.S. Biology
- Louisiana Tech University Beyond 1894 podcast Future Farmers of Our Solar System: Growing Gardens in Microgravity
- 2021 ANS undergraduate research mini-grant

2019-2020 Eric Thomas, B.S. Biology

2019-2020 Thomas Holland, B.S. Biomedical Engineering

- Biomedical Engineering senior design project: RapidPro: A rapid Seizure Diagnostic Test 2019-2020 Raye Ledbetter, B.S. Biology
- Chemistry senior design project: Immobilization of oligo capture probes for solid-phase purification of RNA

2018-2019 Parker Willmon, B.S. Biomedical Engineering 2016-2020
Kaitlynn Willis, B.S. Biology

- LaSPACE LURA 2017-2018
- LaSPACE LURA 2018-2019
- 2019 featured ANS student
- 2017,2018, and 2019 ANS undergraduate research mini-grant
- 2019 RAID Conference, Shreveport, 1st place poster award 2017-2019 Kristen Hutson, B.S. Biology

- 2019 RAID Conference, Shreveport, 1st place poster award
- 2018 ANS undergraduate research mini-grant
- LaSPACE LURA 2018-2019

2017-2019 Carolina Vazquez, B.S. Biology

- 2018 ANS undergraduate research

2016-2017 Mohamad Hamideh, BS Biomedical Engineering

- 2017 CBERS research scholarship

2016-2017 Tatiana Pham, B.S. Biomedical Engineering

- 2017 CBERS research scholarship

TEACHING

- Cancer Biology (BISC 463, BISC 563, MSNT 510, MSNT 657)
- Molecular Biotechnology (MSE 512, BISC 418, BISC 518, MSNT 657, MSNT 510)
- Endocrinology (BISC 406, BISC 506, MSNT 510, MSNT 657)
- Protein Analysis (BISC 492, BISC 592, MSNT 510, MSNT 657)
- Extracellular Vesicles in Research and Diagnostics (BISC 535)
- Noncoding RNA in Research and Diagnostics (BISC 535)
- Doctoral Enhancement Seminar (MSNT 611)
- Molecular Sciences and Nanotechnology Seminar (MSNT 504)
- Undergraduate Seminar (BISC 480)

AWARDS

- 2023 University Senate Chair Award
- 2023 College of Applied and Natural Sciences Research Award
- Nominated 2022 College of Applied and Natural Sciences Teaching 300-level award
- Nominated 2022 College of Applied and Natural Sciences Research Award
- Nominated 2021 College of Applied and Natural Sciences Teaching 300-level award
- 2021 College of Applied and Natural Sciences Research Award
- 2021 James C. Jeffrey, M.D. Endowed Professorship in Pre-Med

SERVICE

- **Panel member on Federal funding agencies:**
  - ✓ NIH reviewer, ZRG1 IMST-M 55 R, PAR Panel: Innovative Research in Cancer Nanotechnology, 2020.
  - ✓ NSF reviewer, Engineering of Biomedical Systems Program (EBMS),2021.
  - ✓ NSF reviewer, Experiential Learning for Emerging and Novel Technologies (ExLENT), 2022.

- **Journal Editor**
  - ✓ *Sensors*, special issue Biosensor Development and Innovation in Healthcare and Medical Applications, 2021-2022.

- **Reviewer for Professional Journals**:
  - ✓ *ASC Sensors, Cell Biochemistry and Biophysics, NeuroReport, Heliyon, Sensor, and Actuators: Chemical, Lab on a chip, Molecules, Science Advances.*
- **Textbook reviewer:**
  - ✓ *Integrative Endocrinology* by Alexander Schreiber, Oxford University Press, 2020.

- **K-12 Education**
  - ✓ Speaking of Science (Louisiana Elementary Math Olympiad, Baton Rouge, 2019; St. Mark's Cathedral School, Shreveport, 2021)
  - ✓ 2021 Advance Placement (AP) Biology Fellow in Assessment: reviewed and provided an assessment of the current AP Biology exam to the College Board (2021).
  - ✓ 2023 Louisiana Tech University Science Olympiad (Div. B Bio-Process lab; Div. Cell Biology)

- **University and College**
  - ✓ Organizing Committee: 2022 Health and Human Science Day at Louisiana Tech University
  - ✓ Served as a faculty mentor in the 2022/23 Louisiana Tech Mentor/Mentee Program
  - ✓ Faculty and staff candidate searches (Graduate School 2018-19, Biomedical Engineering 2021-22)