

CURRICULUM VITAE

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EDUCATION

- Louisiana State University, Baton Rouge, LA. Oceanography & Coastal Sci., Ph.D., 2011
- Bowling Green State University, Bowling Green, OH. Geology, M.S., 2005
- Indian Institute of Technology (IIT), Bombay, India. Applied Geology, M.S., 2003
- Utkal University, Bhubaneswar, India. Geology, M. S., 2001
- Dharanidhar College, Keonjhar, India. Geology, B. S., 1999

PROFESSIONAL EXPERIENCE

Associate Professor, Dept. of Geosciences, Mississippi State University, Mississippi State, MS. Aug 2019-Present

Assistant Professor (tenure-track), Dept. of Geosciences, Mississippi State University, Mississippi State, MS. Aug 2013- Aug 2019

- Areas of Teaching and Research: Remote Sensing & Water Biogeochemistry
- Courses Teaching: GR 6333/4333 Remote Sensing of Physical Environment, GR 8333 Field Remote Sensing, GR 6343/4343 Advanced Remote Sensing, GR 4383/6383 Aerial Drone Applications in Geosciences, GG 3133 Environmental Geology, & GG 8633 Water Biogeochemistry
- Courses Taught: GG 3613 Water Resources
- Research areas: (1) Assessment of water quality and biogeochemical processes, (2) Remote sensing of water quality parameters, (3) Determining the influence of land use & land cover, and climate change on water quality, (4) Source-tracking pollutants using parallel factor modeling of colored dissolved organic matter, (5) Determining the effects of coastal acidification, and (6) Determining along and cross-shore material transport.

Assistant Professor, Dept. of Biology and Environmental Science Ph.D. Program, Jackson State University, Jackson, MS. Feb 2012 - Aug 2013

- Areas of Teaching and Research: Remote Sensing & Environmental Science
- Courses Taught: ENV 717/BIO 617 Remote Sensing of Environment, BIO 114/201 Environmental Science
- Research areas: Detection and mapping of harmful algal blooms using satellite data,

Quantification of harmful algal blooms, pathogens, and toxic metals in water bodies.

**Graduate Research and Teaching Assistant, Louisiana State University, Baton Rouge, LA.
Aug 2005 - Dec 2011**

- Research on NASA funded project: “Quantitative Mapping of Cyanobacterial Blooms Using Oceansat-1 OCM Satellite Data”.
- Course Taught: OCS 1005 Introduction to Oceanography

Graduate Research and Teaching Assistant, Bowling Green State University, Bowling Green, OH. Aug 2003 – Aug 2005

- Research on “SeaWiFS Algorithm for Mapping Phycocyanin in Incipient Freshwater Cyanobacterial Blooms”.
- Course Taught: Geol 105 Life Through Time

PEER-REVIEWED PUBLICATIONS (* denotes authorship by advised student)

2024

1. Li, C., Sheremet, A., Huang, W., **Dash, P.**, Katkar*, A., Allahdadi, M. N., Chaichitehrani, N., Bachmann, C. M., and Rivera-Monroy, V. H. 2024. Dynamic impact of transiting weather systems on coastal currents in the northern Gulf of Mexico, *Deep-Sea Research Part II*, 216, 105395 (Impact factor: 3.0).
2. Ahmad, H.*, Jose, F., Bhuyan, M. S., Islam, M. N., and **Dash, P.** 2024. Seasonal influence of freshwater discharge on spatio-temporal variations in primary productivity, sea surface temperature, and euphotic zone depth in the northern Bay of Bengal, *Acta Oceanologica Sinica*, <https://doi.org/10.1007/s13131-023-2254-y> (Impact factor: 1.6).

2023

3. **Dash, P.**, Sanders*, S. L., Parajuli, P., Ouyang, Y. 2023. Improving the Accuracy of Land Use and Land Cover Classification of Landsat Data in an Agricultural Watershed, *Remote Sensing*, 15, 16, 4020 (Impact factor: 5.0)
4. Sankar*, M.S., **Dash, P.**, Lu, Y., Hu, X., Mercer, A. E., Wickramarathna*, S., Beshah*, W. T., Sanders*, S. L., Arslan, Z., Dyer, J., and Moorhead, R. J. 2023. Seasonal changes of trace elements, nutrients, dissolved organic matter, and coastal acidification over the largest oyster reef in the Western Mississippi Sound, USA. *Environ. Monit. Assess.*, 195, 175 (Impact factor: 3.1; was listed on SSRN's top ten download list).
5. Mahata, A., Panda, R.M., **Dash, P.**, Naik, A., Naik, A.K., Palita, S.K. 2023 Microclimate and Vegetation Structure Significantly Affect Butterfly Assemblages in a Tropical Dry Forest. *Climate*, 11, 220 (Impact factor: 3.7).

2022

6. **Dash, P.**, Devkota*, M., Mercer, A. E., and Ambinakudige, S. 2022. A geographic weighted regression approach for improved total alkalinity estimates in the Northern Gulf of Mexico, *Environmental Modelling & Software*, 148, 105275 (Impact Factor: 4.9).

7. Osborne, E., Hu, X., Hall, E., Yates, K., Vreeland-Dawson, J., Shamberger, K., Barbero, L., Hernandez-Ayon, J. M., Gomez, F., Hicks, T., Xu, Y., McCutcheon, M., Acquafredda, M., Chapa-Balcorta, C., Norzagaray, O., Pierrot, D., Munoz-Caravaca, A., Dobson, K., Williams, N., Rabalais, N., **Dash, P.** 2022. Ocean Acidification in the Gulf of Mexico: Drivers, Impacts, and Unknowns, *Progress in Oceanography*, 209, 102882. (Impact Factor: 4.1)
8. Das, P., Panda, R.M., **Dash, P.**, Jana, A., Jana, A., Ray, D., Tripathi, P., and Kolluru, V. 2022. Multi-Decadal Mapping and Climate Modelling Indicates Eastward Rubber Plantation Expansion in India. *Sustainability*, 14, 7923 (Impact Factor: 3.9).
9. Kyaw*, T. Y., Siegert, C. M., **Dash, P.**, Poudel, K. P., Pitts, J. J., and Renninger, H. J. 2022. Using hyperspectral leaf reflectance to estimate photosynthetic capacity and nitrogen content across eastern cottonwood and hybrid poplar taxa, *Plos One*, 17, 3 (Impact Factor: 3.7).

2021

10. Paul, V., Vattikuti*, S., **Dash, P.**, and Arslan, Z. 2021. Evaluating hydrogeochemical characteristics of groundwater and surface water in the Upper Pearl River Watershed, USA, *Environmental Monitoring and Assessment*, 193, 296 (Impact Factor: 3.1).
11. Wickramarathna*, S., Chandrajith, R., Senaratne, A., Paul, V., **Dash, P.**, Wickramasinghe, S., and Biggs, P. 2021. Bacterial influence on the formation of hematite: Implications for Martian dormant life. *International Journal of Astrobiology*, 20, 4, 270-284 (Impact Factor: 1.7).
12. Nguyen*, A., Gabitov, R., Jimenez, A., Dygert, A., Varco, J., Pérez-Huerta, A., Migdisov, A., Paul, V., Kirkland, B., **Dash, P.** 2021. Retaining Geochemical Signatures during Aragonite-Calcite Transformation at Hydrothermal Conditions, *Minerals*, 11, 1052 (Impact Factor: 2.5).
13. Ni*, X., Parajuli, P. B., Ouyang, Y., **Dash, P.**, Siegert, C. 2021. Assessing land use change impact on stream discharge and stream water quality in an agricultural watershed, *Catena*, 198, 105055 (Impact Factor: 6.2).

2020

14. Paul, V., Sankar*, M.S., Vattikuti*, S., **Dash, P.**, Arslan, Z. 2020. Pollution assessment and land use land cover influence on trace metal distribution in sediments from five aquatic systems in southern USA, *Chemosphere*, 263, 128243 (Impact Factor: 8.8).
15. Risal*, A., Parajuli, P., **Dash, P.**, Ouyang, Y., Linhoss, A. 2020. Sensitivity of hydrology and water quality to variation in land use and land cover data, *Agricultural Water Management*, 241, 106366 (Impact Factor: 6.7).
16. Zarzar*, C. M., **Dash, P.**, Dyer, J. L., Moorhead, R., Hathcock, L. 2020. Development of a Simplified Radiometric Calibration Framework for Water-Based and Rapid Deployment Unmanned Aerial System (UAS) Operations, *Drones*, 4, 17 (Impact Factor: 4.8).

17. Osorio*, R.J., Linhoss, A., **Dash, P.** 2020. Evaluation of Marsh Terraces for Wetland Restoration: A Remote Sensing Approach, *Water*, 12, 336 (Impact factor: 3.4).
18. Sankar*, M.S., **Dash, P.**, Lu, Y., Turnage, G., Shoemaker, C. M., Chen, S., Moorhead, R. J. 2020. Land use and land cover control on the spatial variation of dissolved organic matter across 41 lakes in Mississippi, USA, *Hydrobiologia*, 847, 1159–1176 (Impact Factor: 2. 6).

2019

19. Sankar*, M.S., **Dash, P.**, Lu, Y., Paul, V., Mercer, A.E., Arslan, Z., Varco, J.J., and Rodgers, J.C. 2019. Dissolved organic matter and trace element variability in a blackwater-fed bay following precipitation, *Estuarine, Coastal and Shelf Science*, 231, 106452 (Impact Factor: 2.8).
20. Chen, S., Lu, Y. H., **Dash, P.**, Das, P., Li, J., Capps, K., Majidzadeh, H., and Elliot, M. 2019. Hurricane pulses: Small watershed exports of dissolved nutrients and organic matter during large storms in the Southeastern USA, *Science of the Total Environment*, 689, 232-244 (Impact Factor: 9.8).
21. Gao*, F., Feng, G., Han M., **Dash, P.**, Jenkins. J., and Liu, C. 2019. Assessment of surface water resources in the big sunflower river watershed using coupled SWAT–MODFLOW model, *Water*, 11, 528 (Impact Factor: 3.4).
22. Singh*, S., **Dash, P.**, Sankar, M. S., Silwal, S., Lu, Y. H., Shang, P., and Moorhead, R., J. 2019. Hydrological and Biogeochemical Controls of Seasonality in Dissolved Organic Matter Delivery to a Blackwater Estuary, *Estuaries and Coasts*, 42, 2, 439-454 (Impact factor: 2.8).
23. Sankar*, M. S., **Dash, P.**, Singh*, S., Lu, Y. H., Mercer, A. E., and Chen, S. 2019. Effect of photo-biodegradation and biodegradation on the biogeochemical cycling of dissolved organic matter across diverse surface water bodies, *Journal of Environmental Sciences*, 77, 130-147 (Impact factor: 6.9).

2018

24. Ying, O., Parajuli, P., Feng, G., Leininger, T. D., Wan, Y., and **Dash, P.** 2018. Application of Climate Assessment Tool to Estimate Climate Change Impacts on Nutrient Loading from Local Watersheds, *Journal of Hydrology*, 563, 363-371 (Impact factor: 6.4).

2017

25. Singh*, S., **Dash, P.**, Silwal*, S., Moorhead, R., Feng, G., and Adeli, A. 2017. Influence of land use and land cover on the spatial variability of dissolved organic matter in multiple aquatic environments, *Environmental Science and Pollution Research*, 24, 16, 14124-14141 (Impact factor: 5.8).

2016

26. Maguigan*, M., Rodgers, J., **Dash, P.**, and Meng, Q. 2016. Assessing net primary production in montane wetlands from proximal, airborne, and satellite remote sensing platforms, *Advances in Remote Sensing*, 5, 2, 118-130 (Impact factor: 1.5).
27. Nagaraju, A., Sreedhar*, Y., Thejaswi, A., and **Dash, P.** 2016. Integrated Approach Using Remote Sensing and GIS for Assessment of Groundwater Quality and Hydrogeomorphology in Certain Parts of Tummalapalle Area, Cuddapah District, Andhra Pradesh, India, *Advances in Remote Sensing*, 5, 2, 83-92 (Impact factor: 1.5).
28. Arveti, N., Etikala*, B., and **Dash, P.** 2016. Land Use/Land Cover Analysis Based on Various Comprehensive Geospatial Data Sets: A Case Study from Tirupati Area, South India. *Advances in Remote Sensing*, 5, 2, 73-82 (Impact factor: 1.5).

2015

29. **Dash, P.**, Silwal* S., Ikenga, J. O., Pinckney, J. L., Arslan, Z., and Lizotte, R. E. 2015. Water quality of four major lakes in Mississippi, USA: Impacts on human and aquatic ecosystem health, *Water*, 7, 4999-5030 (Impact factor: 3.4).

2012

30. **Dash, P.**, Walker, N., Mishra, D. and D'Sa, E. 2012. Atmospheric Correction and Vicarious Calibration of Oceansat-1 Ocean Color Monitor (OCM) Data in Coastal Case 2 Waters, *Remote Sensing*, 4, 6, 1716-1740 (Impact factor: 5.0).

2011

31. **Dash, P.**, Walker, N., Mishra, D., Hu, C., Pinckney, J., and D'Sa, E. 2011. Estimation of cyanobacterial pigments in a freshwater lake using OCM satellite data, *Remote Sensing of Environment*, 115, 12, 3409-3423 (Impact factor: 13.5).

2010

32. Garcia*, A., Bargu, S., **Dash, P.**, Rabalais, N., Morrison, W. and Walker, N. 2010. Evaluating the potential risk of microcystins to blue crab (*Callinectes sapidus*) fisheries and human health in a eutrophic estuary. *Harmful Algae*, 9, 134–143 (Impact factor: 6.6).

2003

33. Anbazhagan, S., and **Dash, P.** 2003. Environmental case study of Cauvery River flood plain. *GIS Development*, 7, 12, 30-35 (Impact factor: 0.7).

PUBLICATIONS IN CONFERENCE PROCEEDINGS (* denotes authorship by advised student)

2023

1. **Dash, P.**, Beshah*, W. T., Nur*, A., Islam*, M. S., Chowdhury*, M. O. S., Moorhead, R. J., Moorhead, J., Panda, R. M., Wolfe, J. S., Turnage, G., McCraine, C., Hathcock, L., Chesser, G. D., Lowe, J. W., and Katkar, A. 2023. Water Quality Monitoring using Unmanned Aerial Systems Imagery and a Novel Autonomous Surface Vessel, In the Proceedings of the *Global OCEANS 2023 Conference and Exposition*, Biloxi, MS, September 25-28, 2023.

2. Turnage, G., Wolfe, J. S., **Dash, P.**, Chesser, G. D., Moorhead, R. J., Moorhead, J., McCraine, D., Hathcock, L., Samiappan, S., Lowe, J. W., and Harris, J. 2023. Real time monitoring of water quality with an autonomous surface vessel in a coastal estuary, In the Proceedings of the *Global OCEANS 2023 Conference and Exposition*, Biloxi, MS, September 25-28, 2023.

2022

3. Wolfe, J., S., Chesser, G. D., Lowe, W., Turnage, G., Moorhead, J., **Dash, P.**, Moorhead, R. J. 2022. Evaluation of Autonomous Surface Vessel Navigational Performance Under Varying Environmental Conditions, In the Proceedings of the *ASABE Annual International Meeting*, Houston, Texas July 17-20, 2022.

2021

4. **Dash, P.**, Sankar*, M. S., Moorhead, R. J., Herman, J., Moorhead, J., Beshah*, W., Chesser, D., Lowe, W., Simmerman*, J., and Turnage, G. 2021. Evaluation of Water Quality Data Collected using a Novel Autonomous Surface Vessel, In the Proceedings of the *Global Oceans 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.
5. Beshah*, W. T., Moorhead, J., **Dash, P.**, Moorhead, R. J., Sankar*, M. S., Chesser, G. D. Jr., Lowe, W., Simmerman, J., Turnage, G. 2021. IoT Based Real-Time Water Quality Monitoring and Visualization System Using an Autonomous Unmanned Surface Vehicle, In the Proceedings of the *Global OCEANS 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.
6. Simmerman, J., Chesser, G. D. Jr., Lowe, W., Moorhead, J., Beshah*, W. T., Turnage, G., **Dash, P.**, Sankar*, M.S., Moorhead, R. J. and Herman, J. 2021. Evaluation of the Utility and Performance of an Autonomous Surface Vehicle for Mobile Monitoring of Waterborne Biochemical Agents, In the Proceedings of the *Global OCEANS 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.

2005

7. **Dash, P.**, and Vincent R. K. 2005. Computer Animation of Cyanobacteria Blooms in Lake Erie from July-October 2003, As Mapped from SeaWiFS Data with a New Phycocyanin Algorithm, In the Proceedings of the *16th Pecora Conference on Global Priorities in Land Remote Sensing*, Sioux Falls, SD, October 23-27.

PEER-REVIEWED PUBLICATIONS UNDER REVIEW (* denotes authorship by advised student)

1. Sankar*, M. S., **Dash, P.**, Katkar*, A. P., Wetz, M. S. The Impact of Hydrologic Variability on Organic Matter Dynamics in a Lagoonal, Low Inflow Estuary (Baffin Bay, Texas), *Estuaries and Coasts*, under review (Impact Factor: 2.8).
2. Ahmad*, H., Jose, F., **Dash, P.**, Shoemaker, D. J., & Jhara, S. I. Hypoxia in the northern and eastern Gulf of Mexico: A Machine Learning Approach for Evaluation and Prediction, *Regional Studies in Marine Science*, under review (Impact Factor: 2.1).

3. Ahmad*, H., Jose, F., **Dash, P.**, & Jhara, S. I. Mesoscale Eddies and their Impact on Primary Productivity in the Bay of Bengal, *Oceans*, under review (Impact Factor: 1.5).
4. Islam*, M. S., **Dash, P.**, Nur*, A., Ahmad*, H., Panda, R. M., Wolfe, J. S., Turnage, G., Hathcock, L., Chesser, G. D., and Moorhead, R. J. Estimation of Chlorophyll-a in Uncrewed Aircraft Systems Imagery using Autonomous Surface Vessel data by employing Machine Learning Algorithms and Innovative Feature Selection Techniques, *Remote Sensing of the Environment*, under review (Impact Factor: 13.5).
5. Ahmad*, H., Jose, F., **Dash, P.**, Shoemaker, D. J., Islam, M. M., Bhuyan, M. S., Islam, M. N. & Jhara, S. I. Predictive analysis of land use modeling for Chittagong, Bangladesh utilizing remote sensing and machine learning, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, under review (Impact Factor: 4.7).
6. Ahmad*, H., Miranda, L., Dunn, C., Boudreau, M. R., Colvin, M. E., **Dash, P.** A method for quantifying dynamics of hydrologic floodplain connectivity using remote sensing and GIS, *Limnology and Oceanography: Methods*, under review (Impact Factor: 2.7).

PEER-REVIEWED PUBLICATIONS SOON-TO-BE-SUBMITTED (* denotes authorship by advised student)

1. **Dash, P.**, Shekhar*, S., Paul, V., and Feng, G. Influence of changes in land use and land cover, and precipitation patterns on the groundwater storage changes in the Mississippi River Watershed (USA) from 2003-2015, *Remote Sensing*, Anticipated submission in July 2024 (Impact Factor: 5.0).
2. Ahmad*, H., **Dash, P.**, Panda, R. M., and Muduli, P. R. Integrating Machine Learning and Remote Sensing for Long-Term Monitoring of Chl-a in Chilika Lake, India, *Remote Sensing of the Environment*, Anticipated submission in July 2024 (Impact Factor: 13.5).
3. Islam*, M. S., **Dash, P.**, Liles, J. P., Nur*, A., Panda, R. M., Wolfe, J. S., Turnage, G., Hathcock, L., Chesser, G. D., and Moorhead, R. J. Dynamic monitoring of cyanobacteria in western Mississippi sound: integrating machine learning algorithms and feature selection techniques using uncrewed aircraft systems imagery and autonomous surface vessel data, *Remote Sensing of the Environment*, Anticipated submission in July 2024 (Impact Factor: 13.5).
4. Laird*, W., Gabitov, R., Jiménez-Arroyo, Á., Migdisov, A., Perez-Huerta, A., Guo, X., Xu, H., **Dash, P.**, Katkar, A., Thirumalai, R., Reed, V., Hotchkiss, A., Caporuscio, F., Roback, R. Iodate Uptake by Apatite and Monetite at Hydrothermal Conditions, *Chemical Geology*, Anticipated submission in July 2024 (Impact factor: 3.6).
5. **Dash, P.**, Sanders*, L., Sankar*, M. S., Lu, Y., Parajuli, P., and Ouyang, Y. Source and composition of dissolved organic matter and nutrients in streams from an intensively managed agricultural watershed, *River Research Applications*, Anticipated submission in August 2024 (Impact factor: 2.78).
6. Jimenez*, A., Gabitov, R.I., Migdisov, A.A., Perez-Huerta, A., Guo, X., Xu, H., Caporuscio F., and **Dash P.** Immobilization of Iodine and Uranium by phosphates, *Chemical Geology*, Anticipated submission in August 2024 (Impact Factor: 3.6).

INTELLECTUAL PROPERTIES DEVELOPED

1. Developed an interactive map-based water quality visualization tool for the Gulf of Mexico, accessible at www.water.geosci.msstate.edu. This tool provides scientists and natural resource managers with robust, science-based resources to monitor the health and resilience of our coastal waters. The development of this tool helped secure funding from NASA and will aid in acquiring funding through future research proposals.
2. Developed a web-based platform, accessible at <https://water.geosci.msstate.edu/monitor/>, to receive, archive, and display data from an autonomous surface vessel (ASV) equipped with 15 sensors for collecting water quality data. This web-tool also displays the charts and maps in real-time. Similar to the visualization tool mentioned above, it provides scientists and natural resource managers with robust, science-based resources to monitor the health and resilience of our inland and coastal waters and will help secure funding for future research projects.

INVITED PRESENTATIONS (* denotes presentations in near future)

1. **Dash*, P.**, 2024: Development of an Improved Visualization Tool for the Assessment of Climate Change Impacts on Mississippi Sound Coastal Waters using Integrated NASA Satellite and a Novel Autonomous Surface Vessel Collected Field Datasets (oral), Invited Speaker, *Mississippi IDeA/EPSCoR (MIEC) 2024 Conference, The Mill, Starkville, MS, July 23, 2024.*
2. **Dash, P.**, 2022: HAB monitoring using satellites, unmanned aerial systems, and a novel autonomous surface vessel (oral), Invited Speaker, *Seminar, NOAA Atmospheric and Meteorological Laboratory, Key Biscayne, Miami, FL, December 14, 2022.*
3. **Dash, P.**, 2019: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *Departmental Seminar, Department of Marine Science, University of Southern Mississippi, Stennis Space Center, MS, March 1, 2019.*
4. **Dash, P.**, 2018: Coastal Acidification in the Western Mississippi Sound (oral), Invited Speaker, *Hypoxia Monitoring Working Group Meeting, Stennis Space Center, MS, September 20, 2018.*
5. **Dash, P.**, 2018: Water quality algorithms using reflectance data (oral), Invited Speaker, *Mississippi Based RESTORE Act Center of Excellence (MBRACE) All Hands Meeting, Ocean Springs, MS, October 31, 2018.*
6. **Dash, P.**, 2018: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *Water Seminar, Starkville, MS, August 31, 2018.*
7. **Dash, P.**, 2018: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *IEEE Summer Workshop, Starkville, MS, July 10, 2018.*

8. **Dash, P.**, 2018: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *For a panel of faculty and students from Clarence Fitzroy Bryant College, St. Kitts: Starkville, MS*, August 12, 2018.
9. **Dash, P.**, 2018: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *Remote Sensing Seminar, Starkville, MS*, September 26, 2018.
10. **Dash, P.**, 2017: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *Indian Institute of Science, Bangaluru, India*, December 11, 2017.
11. **Dash, P.**, 2017: Assessment of Water Quality Using Remote Sensing Technology (oral), Invited Speaker, *Jawaharlal Nehru University, New Delhi, India*, December 5, 2017.
12. **Dash, P.**, 2017: Assessment of water quality using Unmanned Aerial Systems (UASs) (oral), Invited Speaker, *Department of Geology and Geological Engineering, University of Mississippi, Oxford, MS*, March 24, 2017.
13. **Dash, P.**, 2016: Assessment of water quality using remote sensing technology (oral), Invited Speaker, *Department of Geological Sciences, University of Alabama, Tuscaloosa, AL*, November 04, 2016.
14. **Dash, P.**, 2016: Towards fine-tuning satellite algorithms for Ocean Acidification Product Suite (OAPS) in the Mississippi River outfall region: my concept for next year (oral), Invited Speaker, *NOAA Atmospheric and Meteorological Laboratory, Key Biscane, Miami, FL*, March 16, 2016.
15. Clary, R.M. (moderator) with Cooke, W. H., Ambinakudige, S., **Dash, P.**, Meng, Q., and Rodgers, J. R. (panelist), 2015: Geospatial Science: How Sense of Place Influences Life- A panel discussion of geospatial techniques relevant to the Maroon Edition book ‘Same Kind of Different as Me’ (oral), Invited Speaker, *Department of Geosciences, Mississippi State University, Mississippi State, MS*, October 08, 2015.
16. **Dash, P.**, 2015: We’re going to drink THAT water?! Mapping water quality using remote sensing technology (oral), Invited Speaker, *Department of Agricultural Economics, Mississippi State University, Mississippi State, MS*, February 27, 2015.

CONFERENCE PRESENTATIONS (* denotes authorship by advised student)

2024

1. Islam*, M. S., **Dash, P.**, Nur*, A., Ahmad*, H., Panda, R. M., Wolfe, J. S., Turnage, G., Hathcock, L., Chesser, G. D., and Moorhead, R. J. Estimation of Chlorophyll-a in Uncrewed Aircraft Systems Imagery using Autonomous Surface Vessel data by employing Machine Learning Algorithms and Innovative Feature Selection Techniques (oral), *Ocean Sciences Meeting, New Orleans, LA*, Feb 18-23, 2024.

2. Sankar*, M. S., **Dash, P.**, Katkar*, A. P., Wetz, M. S. The Impact of Hydrologic Variability on Organic Matter Dynamics in a Lagoonal, Low Inflow Estuary (Baffin Bay, Texas) (poster), *Ocean Sciences Meeting*, New Orleans, LA, Feb 18-23, 2024.
3. Ahmad*, H., Jose, F., Jhara, S. I., and **Dash, P.** Hypoxia in the northern and eastern Gulf of Mexico: A Machine Learning Approach for Evaluation and Prediction (poster), *Ocean Sciences Meeting*, New Orleans, LA, Feb 18-23, 2024.
4. Jhara, S. I., Ahmad*, H., Jose, F., Jhara, S. I., and **Dash, P.** Mesoscale Eddies and their Impact on Primary Productivity in the Bay of Bengal (poster), *Ocean Sciences Meeting*, New Orleans, LA, Feb 18-23, 2024.

2023

5. **Dash, P.**, Beshah*, W. T., Nur*, A., Islam*, M. S., Chowdhury*, M. O. S., Moorhead, R. J., Moorhead, J., Panda, R. M., Wolfe, J. S., Turnage, G., McCraine, C., Hathcock, L., Chesser, G. D., Lowe, J. W., and Katkar, A. 2023. Water Quality Monitoring using Unmanned Aerial Systems Imagery and a Novel Autonomous Surface Vessel (oral), *Global OCEANS 2023 Conference and Exposition*, Biloxi, MS, September 25-28, 2023.
6. Turnage, G., Wolfe, J. S., **Dash, P.**, Chesser, G. D., Moorhead, R. J., Moorhead, J., McCraine, D., Hathcock, L., Samiappan, S., Lowe, J. W., and Harris, J. 2023. Real time monitoring of water quality with an autonomous surface vessel in a coastal estuary (oral), *Global OCEANS 2023 Conference and Exposition*, Biloxi, MS, September 25-28, 2023.
7. Islam*, M. S., **Dash, P.**, Nur*, A. M., Ahmad*, H., Panda, R. M., Wolfe, J. S., Turnage, G., Hathcock, L., Chesser, G. D., Moorhead, R. J. Estimation of Chlorophyll-a in Uncrewed Aircraft System's Imagery using Autonomous Surface Vessel Data by employing Machine Learning Algorithms and Innovative Feature Selection Approaches (oral), *78th Annual Meeting of the Southeastern Division of the AAG*, Norfolk, Virginia, November 18-20, 2023.
8. Eziashi*, C., Paul, V., **Dash, P.**, and Katkar*, A. Effects of nutrients and salinity on water quality and ecosystem of the Western Mississippi Sound (poster), *Geological Society of America*, Pittsburgh, Pennsylvania, October 15-18, 2023.
9. Laird*, W., Jiménez-Arroyo, A., Migdisov, A., Guo, X., Perez-Huerta, A., Xu, H., **Dash, P.**, Gabitov, R., Katkar, A. Evaluating calcium phosphate minerals as a supplement to engineered backfill materials to entrap radioactive iodine (oral), *Geological Society of America*, Pittsburgh, Pennsylvania, October 15-18, 2023.

2022

10. **Dash, P.**, Beshah*, W. T., Nur*, A., Hu, X. 2022. Influence of river input on the carbonate chemistry of the northern Gulf of Mexico (oral), *Ocean Sciences Meeting*, Virtual, February 24-March 4, 2022.
11. Moorhead, R., Moorhead, J., **Dash, P.**, Chesser, G. D., Lowe, W., Turnage, L. G., Beshah*, W. T., Sankar*, M., and Wolfe*, J. S. Water quality collection using satellites, autonomous aerial systems, autonomous surface vessels, and in-situ sensors (oral), *Ocean Sciences Meeting*, Virtual, February 24-March 4, 2022.

12. Wolfe*, J. S., Chesser Jr., G. D., Lowe, W., Turnage, G., Moorhead, J., **Dash, P.**, Moorhead, R. J. 2022. Evaluation of the Utility and Performance of an Autonomous Surface Vehicle for Mobile Monitoring of Water Quality (oral), *Mississippi Water Resources Research Conference*, Starkville, MS, April 12-14, 2022.
13. Wolfe*, J. S., Chesser Jr., G. D., Lowe, W., Turnage, G., Moorhead, J., **Dash, P.**, Moorhead, R. J. 2022. Evaluation Autonomous Surface Vehicle Navigational Performance Under Varying Environmental Conditions (oral), *Agricultural Society of Agricultural and Biological annual conference*, Houston, TX, July 17-20, 2022.
14. Wolfe*, J.S., Chesser Jr., G. D., Lowe, W., Moorhead, J., Beshah, W. T., Turnage, G., **Dash, P.**, Sankar, M. S., Moorhead, R. J., and Herman, J. 2022. Evaluation of the Utility and Performance of an Autonomous Surface Vehicle for Mobile Monitoring of Waterborne Biochemical Agents (oral), *Oceans in Action annual conference*, Gulf Port, MS, March 7-10, 2022.
15. Wolfe*, J. S., Chesser Jr., G. D., Lowe, W., Turnage, G., Moorhead, J., **Dash, P.**, Moorhead, R. J. 2022. Evaluation Autonomous Surface Vehicle Navigational Performance Under Varying Environmental Conditions (oral), *Aquatic Plant Management Society annual conference*, Greenville, SC, July 18-22, 2022.

2021

16. **Dash, P.**, Sankar, M. S., Moorhead, R. J., Herman, J., Moorhead, J., Beshah, W., Chesser, D., Lowe, W., Simmerman, J., and Turnage, G. 2021. Evaluation of Water Quality Data Collected using a Novel Autonomous Surface Vessel (oral), *Global OCEANS 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.
17. Beshah*, W. T., Moorhead, J., **Dash, P.**, Moorhead, R. J., Sankar, M. S., Chesser, G. D. Jr., Lowe, W., Simmerman, J., Turnage, G. 2021. IoT Based Real-Time Water Quality Monitoring and Visualization System Using an Autonomous Unmanned Surface Vehicle (oral), *Global OCEANS 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.
18. Simmerman*, J., Chesser, G. D. Jr., Lowe, W., Moorhead, J., Beshah, W. T., Turnage, G., **Dash, P.**, Sankar, M.S., Moorhead, R. J. and Herman, J. 2021. Evaluation of the Utility and Performance of an Autonomous Surface Vehicle for Mobile Monitoring of Waterborne Biochemical Agents (oral), *Global OCEANS 2021 Conference and Exposition*, San Diego, CA, September 20-23, 2021.
19. Gabitov, R. G., Varco, J., Dygert, D., Kirkland, B., Paul, V., **Dash, P.**, Migdisov, A., Nguyen, A., Jimenez, A., Perez-Huerta, A. 2021. Retention of geochemical signatures during the transformation of aragonite to calcite at elevated temperatures (oral), *Goldschmidt conference*, Virtual, July 4-9, 2021.

2020

20. Beshah*, W. T., **Dash, P.**, Hathcock, L., and Moorhead R. J. Pre- and Post-Processing of Multispectral Unmanned Aerial Systems Imagery for Estimating Suspended Particulate

Matter over an Oyster Reef (oral), *AAG 2020 Annual Meeting*, Virtual Event: April 6-10, 2020.

21. Paul, V., Vattikutti*, S., Sankar*, M. S., **Dash, P.**, Berry, M., and Arslan, Z. Geochemical Assessment of Trace Metals from Varied Aquatic Systems in Southern USA (oral), *Mississippi Water Resources Conference*, Virtual Event: March 31 - April 1, 2020.
22. Beshah*, W., **Dash, P.**, and Moorhead, R. J., Estimation of suspended particulate matter over the Henderson Point and Pass Christian Oyster Reefs, Mississippi using unmanned aerial systems imagery (oral), *Bays and Bayous Symposium*, Virtual Event: December 1-3, 2020.

2019

23. **Dash, P.**, Devkota, M., Sankar, M. S., Beshah, W., Mercer, A. E., Ambinakudige, S. 2019: Influence of river input on the carbonate chemistry of northern Gulf of Mexico (oral), *Coastal and Estuarine Research Federation 25th Biennial Conference*, Mobile, AL, November 2-8, 2019.
24. Sankar*, M. S., **Dash, P.**, Lu, Y., Arslan, Z., Sanders, S. L., Pallayapelage, S., Ragland, R., Moorhead, R. J. 2019: Changes in dissolved Organic matter, trace metals, and ocean acidification parameters over an oyster bed in the western Mississippi Sound, Northern Gulf of Mexico (oral), *Coastal and Estuarine Research Federation 25th Biennial Conference*, Mobile, AL, November 2-8, 2019.
25. Katkar*, A., **Dash, P.**, Sankar, M. S., and Moorhead, R. J. 2019: Effects of coastal acidification on the oyster reefs in the western Mississippi sound (poster), *Coastal and Estuarine Research Federation 25th Biennial Conference*, Mobile, AL, November 2-8, 2019.
26. Wickramarathna*, S., Paul, V., **Dash, P.**, Chandrajith, R., Senarathne, A., Wickramashinghe, S., Li, X., Brinckerhoff, W., van Amerom, F., Microbial diversity in hematitic bearing rock from tropical Sri Lanka (oral), *AbSciCon conference*, Seattle, WA, June 24-28, 2019.
27. **Dash, P.** and Moorhead, R. J., Assessment of water quality using remote sensing technology over the Henderson Point and Pass Christian oyster reefs, Mississippi (oral), *Mississippi Academy of Sciences*, Hattiesburg, MS, February 21-22, 2019.
28. Sankar*, M. S., **Dash, P.**, Yuehan, L. H., and Moorhead, R. J., Dissolved Organic Matter Biogeochemistry and its effect on Ocean Acidification Over an Oyster Bed in the Western Mississippi Sound, MS, USA (oral), *Mississippi Academy of Sciences*, Hattiesburg, MS, February 21-22, 2019.
29. Hunt*, M. P., **Dash, P.**, Wickramarathna*, S., and Moorhead, R. J., Whether pigments other than chlorophyll a and phycocyanin significantly affect remote sensing reflectance? (oral), *Mississippi Academy of Sciences*, Hattiesburg, MS, February 21-22, 2019.
30. Beshah*, W., **Dash, P.**, and Moorhead, R. J., Estimation of suspended particulate matter over the Henderson Point and Pass Christian Oyster Reefs, Mississippi using unmanned

aerial systems imagery (oral), *Mississippi Academy of Sciences*, Hattiesburg, MS, February 21-22, 2019.

31. Wickramarathna*, S., **Dash, P.**, and Moorhead, R. J., Assessment of colored dissolved organic matter using unmanned aerial systems over the oyster reefs in the western Mississippi Sound (oral), *Mississippi Academy of Sciences*, Hattiesburg, MS, February 21-22, 2019.

2018

32. Sanders*, L., **Dash, P.**, and Parajuli, P., 2018: Improving the Accuracy of Land Use and Land Cover Classification of Landsat Data in an Agricultural Watershed (poster), *AGU Fall Meeting*, Washington D. C., December 10-14, 2018.
33. Sankar*, M. S., **Dash, P.**, Lu, Y. H., Paul, V., Mercer, A. E., and Arslan, Z., 2018: Application of Multivariate Statistics to Geochemical and Precipitation Data to Evaluate Dissolved Organic Matter-Trace Element Variability in a Coastal Bay (poster), *AGU Fall Meeting*, Washington D. C., December 10-14, 2018.
34. Beshah*, W., **Dash, P.**, Skarke, A., and Moorhead, R. J., An interactive map-based water quality visualization tool for the Gulf of Mexico (oral), *Bays and Bayous Symposium*, Mobile, AL., November 28-29, 2018.
35. Wickramarathna*, S., **Dash, P.**, Arslan, Z., and Moorhead, R. J., Water biogeochemistry affecting the oyster beds in the Western Mississippi Sound (oral), *Bays and Bayous Symposium*, Mobile, AL., November 28-29, 2018.
36. Sankar*, M. S., **Dash, P.**, Yuehan, L. H., and Arslan, Z., Biogeochemical evaluation of Dissolved Organic Matter and Trace Elements over an Oyster Bed in the Western Mississippi Sound using Multivariate Statistics (oral), *Bays and Bayous Symposium*, Mobile, AL., November 28-29, 2018.
37. Moorhead, R. J., **Dash, P.**, Hathcock, L., and Devkota, M., Coastal Water Quality Algorithm Development (oral), *IEEE VIS*, Berlin, Germany, October 21-26, 2018.
38. Wickramarathna*, S., Chandrajith, R., Senarathne, A., Wickramashinghe, S., Paul, V., and **Dash, P.**, Microbial diversity in hematitic bearing rock from tropical Sri Lanka (oral), *Goldschmidt conference*, Boston, MA, August 12-17, 2018.
39. Fei, G., Feng, G., **Dash, P.**, and Ouyang, Y., Impact of different ratios of surface water and groundwater for row crops irrigation on groundwater level in Mississippi Delta (oral), *Mississippi Water Resources Conference*, Jackson, MS, April 3-4, 2018.
40. Feng, G., Fei, G., Ouyang, Y., and **Dash, P.**, Conjunctive use of groundwater and surface water for supporting irrigated agriculture in Mississippi (oral), *Mississippi Water Resources Conference*, Jackson, MS, April 3-4, 2018.

2017

41. Shekhar*, S., **Dash, P.**, Saraf, A. K., 2017: Influence of changes in Land Use and Land Cover, and Precipitation patterns on the groundwater storage changes in the Mississippi River Watershed (USA) from 2003-2015 (poster), *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017.

42. Silwal*, S., **Dash, P.**, Moorhead, R. J., 2017: Remote sensing algorithms to quantify chlorophyll a and phycocyanin using two popular UAS based sensors and three currently operational satellite sensors in multiple water bodies (oral), *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017.
43. Devkota*, M., **Dash, P.**, 2017: Improved algorithms for estimating Total Alkalinity in Northern Gulf of Mexico (oral), *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017.
44. Sankar*, M. S., **Dash, P.**, Singh, S., Lu, Y. H., 2017: Effect of photodegradation and biodegradation on the concentration and composition of dissolved organic matter in diverse waterbodies (oral), *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017.
45. **Dash, P.**, Ambinakudige, S., Elliott, M., Lu, Y. H., Turnage, G., Moorhead, R. J., 2017: A Pilot Study for Identifying Failing Septic Systems Using Unmanned Aerial Systems (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
46. Silwal*, S., **Dash, P.**, Moorhead, R. J., 2017: Remote Sensing Algorithms to Quantify Chlorophyll A and Phycocyanin Using Two Popular UAS Based Sensors and Three Currently Operational Satellite Sensors in Mississippi Lakes (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
47. Shekhar*, S., **Dash, P.**, Feng, G., Moorhead, R. J., 2017: Cloud Shadow and Sun-Glint Correction In UAS Imagery Using Machine Learning Algorithms (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
48. Zarzar*, C., **Dash, P.**, Dyer, J., and Moorhead, R. J., 2017: Quantifying Atmospheric Effects in Unmanned Aerial System Imagery (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
49. Sankar*, M.S., **Dash, P.**, Paul, V., Singh, S., Varco, J., Rodgers, J. R., Lu, Y. H., Arslan, Z., Phipps, S., 2017: The Nature of Dissolved Organic Matter and its Effect on Biogeochemical Cycling of Toxic Trace Metals in Weeks Bay Estuary (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
50. Adhikari*, P., **Dash, P.**, Sankar, M. S., Nagpal, S., Sudedi, N., Ariunbold, G. O., 2017: A Spectroscopic Study Of Dissolved Organic Matter Under Storm Flow Conditions (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.
51. Devkota*, M., and **Dash, P.**, 2017: A Total Alkalinity Algorithm for Northern Gulf of Mexico (oral), *72nd Annual Meeting of the Southeastern Division of the AAG*, Starkville, MS, November 19-20, 2017.

2016

52. Singh*, S., **Dash, P.**, Silwal, S, Sasidharan*, M. S., Moorhead, R. J., Shang, P., and Lu, Y., 2016: Hydrologic conditions control the seasonal changes in dissolved organic matter (DOM) delivery to the Lower Pearl River estuarine waters (oral), *Bays and Bayous Symposium*, Biloxi, MS, November 30-December 1, 2016.

53. **Dash, P.**, 2016: Remote sensing for climate smart agriculture (oral), *Workshop for the Cochran Fellows*, Starkville, MS, August 1-12, 2016.
54. Zarzar*, C. M., Dyer, J., **Dash, P.**, Moorhead, R. J., Turnage, G., 2016: Understanding Coastal Changes Using High Resolution Imagery from Unmanned Aerial Systems (oral). *2016 State of the Coast Conference*, New Orleans, LA, June 1-3, 2016.
55. Zarzar*, C. M., Dyer, J., **Dash, P.**, Moorhead, R. J., Turnage, G., 2016: Defining Surface Land Cover Features Using High Resolution Unmanned Aerial System Imagery (oral). *14th Annual Southeast Severe Storms Symposium*, Starkville, MS, April 4-5, 2016.
56. Meritt*, D. N., Skarke, A., Silwal, S., **Dash, P.**, 2016: Remote Sensing of Suspended Sediment Dynamics in the Mississippi Sound (poster), *ASLO Aquatic Sciences Meeting*, New Orleans, LA, February 21-26, 2016.
57. Zarzar*, C. M., **Dash, P.**, Moorhead, R. J., Dyer, J., Turnage, G., 2016: Defining Surface Land Cover Features Using High Resolution Imagery from Unmanned Aerial Systems (poster). *2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference*, Tampa, FL, February 1-4, 2016.
58. Zarzar*, C. M., **Dash, P.**, Dyer, J., Turnage, G., Moorhead, R. J., 2016: Defining Surface Land Cover Features Using High Resolution Imagery from Unmanned Aerial Systems (oral). *American Meteorological Society 30th Conference on Hydrology*, New Orleans, LA, January 10-14, 2016.

2015

59. Singh*, S., **Dash, P.**, Silwal*, S, Moorhead, R. J., 2015: Optical characterization and spatial distribution of dissolved organic matter (DOM) in seven water bodies of Mississippi, USA (oral), *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2015.
60. **Dash, P.**, 2015: Investigating the water quality of lower Pearl River estuary (oral), *Coastal and Estuarine Research Federation 23rd Biennial Conference*, Portland, OR, November 8-12, 2015.
61. Silwal*, S, **Dash, P.**, Moorhead, R. J., Sackreiter, J., Ochs, C. A., Pinckney, J. L., 2015: Phytoplankton community structure in Lower Pearl River Estuary (poster), *Coastal and Estuarine Research Federation 23rd Biennial Conference*, Portland, OR, November 8-12, 2015.
62. Zarzar*, C. M., **Dash, P.**, Dyer, J., Turnage, G., Moorhead, R. J., 2015: Application of Unmanned Aerial Systems (UAS) in Aquatic Plant Identification (oral). *MidSouth Aquatic Plant Management Society 34th Annual Meeting*, Mobile, AL, September 14-16, 2015.
63. Zarzar*, C. M., **Dash, P.**, Dyer, J., Hathcock, L., Moorhead, R. J., Turnage, G., Van Horn, J., 2015: Development of Spectral-based Classification Schemes Using Unmanned Aerial System Imagery (oral). *River Forecasting Center Post Mission Review*, Starkville, MS, August 15, 2015.
64. Zarzar*, C. M., **Dash, P.**, Dyer, J., Hathcock, L., 2015: Development of Spectral-based Classification Schemes Using Unmanned Aerial System Imagery (oral). *Association of American Geographers*, Chicago, IL, April 21-25, 2015.

65. Van Horn*, J., **Dash, P.**, Dyer, J., Hathcock, L., Moorhead, R., 2015: Potential of Unmanned Aerial Systems Imagery Relative to Landsat Imagery (oral), *Association of American Geographers*, Chicago, IL, April 21-25, 2015.
66. Domenech*, J., **Dash, P.**, Clary, R., Schmitz, D., 2015: Multispectral Mapping of Sediment Plumes in Pierpont Bay, CA Using MODIS Satellite Data (poster), *Association of American Geographers*, Chicago, IL, April 21-25, 2015.
67. Parnell*, R., **Dash, P.**, Silwal, S., 2015: Investigation of Water Quality Of Ross Barnett Reservoir, Mississippi, USA (poster), *Mississippi Academy of Sciences 79th Annual Meeting*, Hattiesburg, MS, February 26-27, 2015.

2014

68. **Dash, P.**, 2014: Investigating the Water Quality of Four Large Mississippi Lakes and Grand Bay, MS-AL Gulf Coast (oral), *Mississippi Water Resources Conference*, Jackson, MS, April 1-2, 2014.
69. **Dash, P.**, 2014: Investigating the Water Quality of Four Large Mississippi Lakes and Grand Bay, MS-AL Gulf Coast (oral), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.
70. Silwal*, S., **Dash, P.**, Ikenga, J. O., and Pinckney, J. L., 2014: Algal Community Structure in Four Major Mississippi Lakes and in Grand Bay, Mississippi-Alabama Gulf Coast (oral), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.
71. Peavy*, L., **Dash, P.**, Ikenga, J. O., and Pinckney, J. L., 2014: A Comprehensive View of the Water Quality of Ross Barnett Reservoir (poster), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.
72. Collins*, M., **Dash, P.**, Ikenga, J. O., and Pinckney, J. L., 2014: Comprehensive Study of Water Quality of Lake Enid, MS, USA (poster), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.
73. Norwood*, T., **Dash, P.**, Ikenga, J. O., and Pinckney, J. L., 2014: Investigation of the Water Quality of Lake Grenada, MS, USA (poster), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.
74. Grant*, I., **Dash, P.**, Ikenga, J. O., and Pinckney, J. L., 2014: Water Quality & Harmful Algal Bloom Analysis of Lake Sardis (poster), *Mississippi Academy of Sciences 78th Annual Meeting*, Hattiesburg, MS, March 5-6, 2014.

2013

75. **Dash, P.**, 2013: Water quality and remote sensing technology (oral), *Brown Bag Speaker: Department of Geosciences, Mississippi State University*, Mississippi State, MS, October 04, 2013.
76. **Dash, P.**, 2013: Detection and Mapping of Cyanobacterial Harmful Algal Blooms using Satellite Data in One Louisiana Lake and Four Mississippi Lakes (poster), *Mississippi Water Resources Conference*, Jackson, MS, April 2-3, 2013.

77. **Dash, P.**, 2013: Quantification of Cyanobacterial Blooms and Cyano-Toxins in Four Large Mississippi Lakes (oral), *Mississippi Academy of Sciences 77th Annual Meeting*, Hattiesburg, MS, February 21-22, 2013.
78. Kibet*, D., **Dash, P.**, Ayensu, W., Ikenga, J. O., and Pinckney, J. L., 2013: Quantification and analysis of harmful cyanobacterial blooms in Lake Grenada using field and satellite data (poster), *Mississippi Academy of Sciences 77th Annual Meeting*, Hattiesburg, MS, February 21-22, 2013.
79. Chumo*, J., **Dash, P.**, Ayensu, W., Ikenga, J. O., and Pinckney, J. L., 2013: Quantifying the concentration of Harmful Alga Blooms (HABs) in Lake Enid (poster), *Mississippi Academy of Sciences 77th Annual Meeting*, Hattiesburg, MS, February 21-22, 2013.
80. Flowers*, M., **Dash, P.**, Ayensu, W., Ikenga, J. O., and Pinckney, J. L., 2013: Detection of Harmful Algal Blooms in Lake Sardis, MS, US (poster), *Mississippi Academy of Sciences 77th Annual Meeting*, Hattiesburg, MS, February 21-22, 2013.
81. Tanui*, W., **Dash, P.**, Ayensu, W., Ikenga, J. O., and Pinckney, J. L., 2013: Detection and Quantification of Harmful Algal Blooms (HABs) in the Ross Barnett Reservoir, Mississippi, USA (poster), *Mississippi Academy of Sciences 77th Annual Meeting*, Hattiesburg, MS, February 21-22, 2013.

2012

82. **Dash, P.**, 2012: Detection and Mapping of Cyanobacterial Harmful Algal Blooms using Satellite Data in One Louisiana Lake and Four Mississippi Lakes (poster), *Bays and Bayous Symposium*, Biloxi, MS, November 14-15, 2012.
83. **Dash, P.**, 2012: Detection and Mapping of Cyanobacterial Harmful Algal Blooms using Satellite Data in One Louisiana Lake and Four Mississippi Lakes (oral), *Ninth International Symposium on Recent Advances in Environmental Health Research*, Jackson, MS, September 16-19, 2012.

2011

84. **Dash, P.**, Walker, N. D., Mishra, D., Hu, C., 2011: Atmospheric Correction, Vicarious Calibration and Development of Algorithms for Quantifying Cyanobacterial Blooms from Oceansat-1 OCM Satellite Data (oral), *AGU Fall Meeting*, San Francisco, CA, December 5-9, 2011.
85. **Dash, P.**, Walker, N. D., Mishra, D., Hu, C., 2011: Atmospheric Correction, Vicarious Calibration and Development of Algorithms for Quantifying Cyanobacterial Blooms from Oceansat-1 OCM Satellite Data (oral), *ASLO Aquatic Sciences Meeting*, San Juan, Puerto Rico, February 13-18, 2011.

2008

86. **Dash, P.**, Walker, N. D., Garcia, A. C., Bargu, S., Rabalais, N. N., Pinckney, J. L., 2008: Quantitative mapping of cyanobacteria blooms from Oceansat-1 OCM satellite data (poster), *Annual Northern Gulf Institute Conference*, Biloxi, MS, May 16-17, 2008 (**Second best poster award**).
87. **Dash, P.**, Walker, N. D., Garcia, A. C., Bargu, S., Rabalais, N. N., Pinckney, J. L., 2008: Quantitative mapping of cyanobacteria blooms from Oceansat-1 OCM satellite data

(poster), *Graduate Student Symposium*, LUMCON, Cocodrie, LA, February 22-24, 2008
(Best poster award).

2007

88. **Dash, P.**, Walker, N. D., Garcia, A. C., Bargu, S., Pinckney, J. L., 2007: Quantitative mapping of cyanobacteria blooms from Oceansat-1 OCM satellite data (poster), *Fourth Symposium on Harmful Algae in the U.S.*, Woods Hole, MA, October 29- November 1, 2007.
89. Garcia, A. C., **Dash, P.**, Bargu, A., 2007: Bioaccumulation of Cyanobacterial Cylindrospermopsis Toxin in Louisiana Blue Crab, *Callinectes sapidus* (poster), *Fourth Symposium on Harmful Algae in the U.S.*, Woods Hole, MA, October 29- November 1, 2007.

2005

90. **Dash, P.**, Vincent, R. K., 2005: Computer Animation of Cyanobacteria Blooms in Lake Erie from July-October, 2003 (oral), *16th Pecora Conference on Global Priorities in Land Remote Sensing*, Sioux Falls, SD, October 23-27, 2005.

RESEARCH GRANT PROPOSALS AWARDED (Total: \$6,265,081; Portion to Dash: \$2,162,745)

1. Skarke, A., **Dash, P.**, and Alacron, V. C. MBRACE 3 Core Research Program: Approaches for understanding water quality and oyster habitat suitability in the Mississippi Sound, Co-PI, 07/01/2023-11/30/2027, \$582,110, The U.S. Department of the Treasury and Mississippi Based RESTORE Act Center of Excellence (MBRACE), Portion of funding to Dash: \$194,000.
2. **Dash, P.** and Panda, R. M. Development of an Advanced Lake Ecosystem Restoration Tool (ALERT) for Lake Chilika, Odisha, India, PI, 1/1/2023 to 12/31/2023, \$5,000, MSU International Institute, Portion of funding to Dash: \$3,500.
3. **Dash, P.**, Bhushan, S., Chesser, D., and Easson, G. Development of an Improved Visualization Tool for the Assessment of Climate Change Impacts on Mississippi Sound Coastal Waters using Integrated NASA Satellite and a Novel Autonomous Surface Vessel Collected Field Datasets, PI, 7/1/2022 to 6/30/2025, \$750,000, NASA EPSCoR, Portion of funding to Dash: \$500,643.
4. Ochs, C., Shields, F. D., **Dash, P.**, Taylor, J. Nutrient Removal & Algae/Cyanobacteria Production in Backwater Areas of the Mississippi River, Co-PI, 5/16/2022 to 8/15/2022, \$159,819, US Army Engineer Research and Development Center (ERDC), Portion of funding to Dash: \$10,493.
5. Linhoss, A., **Dash, P.**, Moorhead, R. J., Parajuli, P., MBRACE 2 Core Research Program: Approaches for understanding water quality and oyster habitat suitability in the Mississippi Sound, Co-PI, 3/1/2020 to 2/28/2023, \$388,184, Mississippi Based RESTORE Act Center of Excellence (MBRACE), Portion of funding to Dash: \$97,046.

6. Gabitov, R., **Dash, P.**, Paul, V., Reverse flow injection spectrophotometric determination of iodate and iodide in table salt, Co-PI, 1/1/2020-12/31/2020, \$10,000, College of Arts & Sciences, Mississippi State University, Portion of funding to Dash: \$700.
7. Moorhead, R. J., **Dash, P.**, Chesser, D., Persistent Autonomous Mobile Monitoring of Waterborne Biochemical Agents, Co-PI, 7/22/2019-9/27/2024, \$1,998,824, US Army Engineer Research and Development Center, Portion of funding to Dash: \$750,000.
8. Moorhead, R. J., **Dash, P.**, Skarke, S., MBRACE 1 Core Research Program: Water Quality and Benthic Habitat Observations for Enhanced Understanding and Sustainable Management of Oyster Reefs in Mississippi Sound, Co-PI, 8/1/2017-7/31/2019, \$624,953, US Department of Treasury (via RESTORE Act Center of Excellence), Portion of funding to Dash: \$208,317.
9. Parajuli, P., **Dash, P.** and Ouyang, Y., Assessment of nutrient sources and movement at watershed scale agro-ecosystems, Co-PI, 4/1/2017-03/31/2022, \$499,535, USDA, Portion of funding to Dash: \$124,883.
10. Parajuli, P., **Dash, P.**, Reddy, K. R. R., Ambinakudige, S., and Sharma C. S., 2016 Cochran Fellowship Program for Mali, Senegal, and Burkina Faso - Climate Smart Agriculture, Co-PI, 06/25/2016- 06/24/2017, \$48,653, USDA, Portion of funding to Dash: \$12,163.
11. **Dash, P.**, Towards fine-tuning satellite algorithms for Ocean Acidification Product Suite (OAPS), PI, 09/01/2015-08/31/2016, \$22,000, NOAA/AOML, Portion of funding to Dash: \$22,000.
12. Paul, V., **Dash, P.**, Yun, S., Kim, D., Interdisciplinary Grant Writing Group, Co-PI, 8/1/2018-5/31/2019, \$250, Office of Institutional Diversity and Inclusion, Mississippi State University, Portion of funding to Dash: \$62.50.
13. Ambinakudige, S., **Dash, P.**, Reddy, R., Parajuli, P., An international working group to study environmental and food security issues in wetland ecosystems in South Asia, Co-PI, 1/1/2015 – 12/31/2015, \$2,500, International Institute, Mississippi State University, Portion of funding to Dash: \$625.
14. **Dash, P.**, Monitoring harmful cyanobacterial blooms using data from multiple satellite sensors in four large Mississippi lakes, PI, 08/01/2014-07/31/2015, \$10,000, Henry Family Research Fund, Portion of funding to Dash: \$5,000.
15. **Dash, P.**, Walker, N. D., and D'Sa, E. J., Access to HICO Data for Detection and Mapping of Harmful Algal Blooms (HABs) using HICO Data in Four Large Inland Lakes in Mississippi and the Grand Bay, MS-AL Gulf Coast, PI, 01/01/2013-08/31/2015, \$0.00, Naval Research Laboratory, Portion of funding to Dash: \$0.00.

16. Tchounwou, P., Farah, I., **Dash, P.**, Kim, Y., Han, F., NOAA ECSC (Environmental Cooperative Science Center), Co-PI, 09/01/2011- 08/01/2013, \$1,150,000, NOAA, Portion of funding to Dash: \$230,000.
17. Vincent, R., Leshkevich, G., **Dash, P.**, Al-Rshaidot, M., Development of a MODIS image product for mapping phycocyanin pigment in blue-green algal blooms (Toxic Algae), 4/1/2005-6/30/2006, \$13,253.00, NOAA, Ohio Sea Grant, Portion of funding to Dash: \$3,313.

RESEARCH GRANT PROPOSALS SUBMITTED BUT NOT FUNDED (Total: \$58,363,627; Portion to Dash: \$6,337,113)

1. Yun, S., **Dash, P.**, Jungers, B., Ayoung, K., Posadas, B. Multi-regional socioeconomic impact analysis of harmful algal bloom in the Gulf of Mexico, Co-PI, 9/1/2024-8/31/2027, \$1,105,556, NOAA, Portion of funding to Dash: \$221,112.
2. **Dash, P.** Assessing the direct and indirect benefits of coastal marsh creation projects as a nature-based solution in the face of increasing sea level rise, PI, 9/1/2024-8/31/2027, \$239,996, NOAA, Portion of funding to Dash: \$239,996.
3. **Dash, P.**, Bhushan, S., and Barrett, J. CPS: Small: NSF-DST: Development of an Advanced Lake Ecosystem Research Tool (ALERT), PI, 1/1/2024 to 12/31/2026, \$499,999 (NSF, USA), \$249,550 (DST, India), Portion of funding to Dash: \$455,439.
4. Bhushan, S., **Dash, P.**, Narsipur, S., Burgreen, G., and Li, C. M., Characterization of Hydrokinetic Energy Potential in the Lower Mississippi River, Co-PI, 7/1/2023 to 6/30/2026, \$750,000, DoE, Portion of funding to Dash: \$200,000 (Invited proposal after winning a state-wide competition of the pre-proposals submitted to Mississippi DoE EPSCoR).
5. White, J. R., **Dash, P.**, Li, C., Xue, Z. G., Collaborative Research: Projecting Future Carbon and Nutrient Loss from Deltaic Coastal Wetlands Today through Outwelling: Filling the Knowledge and Modelling Gap, Co-PI, 7/1/2022 to 6/30/2025, \$750,000, NSF, Portion of funding to Dash: \$246,511
6. **Dash, P.**, Chesser, D., and Lowe, W. Coastal Carbon Export from Wetland dominated coasts Driven by Oceanic and Weather Forcing under today's and future Sea Level Rise, PI, 8/15/2021 to 8/14/2024, \$386,002, NASA ROSES, Portion of funding to Dash: \$338,133.
7. White, J. R., **Dash, P.**, Li, C., Cooke, R. L., and Xue, Z. G., Coastal Carbon Export from Wetland dominated coasts Driven by Oceanic and Weather Forcing under today's and future Sea Level Rise, Co-PI, 08/1/2021 to 7/31/2023, \$1,000,000, DoE, Portion of funding to Dash: \$199,304.
8. Rivera-Monroy, V., Walker, N. D., **Dash, P.**, and Meselhe, E., Nutrient and Sediment Loading from River Diversions: Spatio-temporal Hierarchical Analyses Using Field and

Satellite Data to Validate Predictive Modeling Systems, Co-PI, 08/1/2021 to 7/31/2022, \$230,000, RESTORE Act Center of Excellence for Louisiana (LA-COE), Portion of funding to Dash: \$90,000.

9. Hunt*, M., **Dash, P.**, Potential risk of harmful algal blooms to oysters and human health in the western Mississippi Sound, Supervisor, 8/15/2021 to 8/14/2023, \$138,000, NSF (Graduate Student Fellowship).
10. Ariunbold, G., **Dash, P.**, Wang, H., and Fitzkee, N., CAS-MNP: High-throughput in situ study of weathering in plastic debris and its degraded micro-fragments, Co-PI, 09/1/2020 to 8/31/2022, \$331,920, NSF, Portion of funding to Dash: \$90,000.
11. **Dash, P.**, Chesser, D., Howden, S., Eldek, A., High Resolution Collection and Visualizations of the Dynamics of Freshwater Inflow and Associated Biogeochemical Parameters Affecting the Water Quality of Western Mississippi Sound Collected by an Autonomous Surface Vehicle, Unmanned Aerial Systems, and In Situ Data, PI, 1/1/2020 to 12/31/2021, \$449,957, Mississippi Based RESTORE Act Center of Excellence (MBRACE), Portion of funding to Dash: \$357,422.
12. Mlsna, T., Schauwecker, T., Paul, V., **Dash, P.**, Ramirez, J. Removing Nitrate and Phosphate from Runoff and Baseflow using Low-cost, Engineered Biochar, Co-PI, 1/1/2021 to 12/31/2023, \$937,912, United States Environmental Protection Agency (USEPA), Portion of funding to Dash: \$312,637.
13. **Dash, P.** and Jackson, J., Development of 3-dimensional visualizations of the biogeochemical parameters collected by biogeochemical-Argo (BGC-Argo) floats, an autonomous surface vehicle, and in situ data in the region east of the Mississippi River Delta, northern Gulf of Mexico, PI, 07/31/2019 to 9/30/2020, \$400,000, NOAA, Portion of funding to Dash: \$350,000.
14. Ambinakudige, S., **Dash, P.**, Shaha, D. C., Hossain, A., Research on Resilient Rice-Fish Farming System for Small Holders in Bangladesh to Achieve Food Security, Human Nutrition and Strengthened and Equitable Livelihoods, Co-PI, 09/1/2019 to 8/31/2022, \$495,000, NOAA, Portion of funding to Dash: \$150,000.
15. Paul, V., **Dash, P.**, Yun, S., Kim, A., Kim, D., Gholson, D., A Hybrid Approach to Sustainable Groundwater Resource Management: Supply-Demand Mapping with Economics Modeling in the Lower Mississippi River Valley Aquifer system, Co-PI, 8/1/2020-7/31/2023, \$299,000, USDA, Portion of funding to Dash: \$70,000.
16. Ariunbold, G. O. and **Dash, P.**, Joint Mongolia-US Collaborative Research Initiative to Study Environmental Pollution of Lake Hovsgol, Co-PI, 01/01/2020 – 07/31/2020, \$5,000, International Institute, Mississippi State University, Portion of funding to Dash: \$2,500.
17. **Dash, P.**, Measurement and visualization of acidification over the largest oyster reef in the Mississippi Sound and determination of acidification's potential impacts on oysters in

- the Mississippi Sound, PI, 1/10/2019-9/9/2019, \$20,000, NSF, Portion of funding to Dash: \$20,000.
18. Sankar, M. S., Dash, P., Yuehan, Y. H., Chen, S. Integrating Remote Sensing and Biogeochemical Characterizations to Determine Roles of Dissolved Organic Matter in Declining Water Quality over Oyster Reefs, MS, Co-PI, 1/10/2019-9/9/2019, \$10,000, NSF, Portion of funding to Dash: \$10,000.
 19. Linhoss, A., Dash, P., Dyer, J., Skarke, A., Moorhead, R. J., Identifying drivers of success in marsh terrace restoration, Co-PI, 9/1/2019-8/31/2014, \$2,670,437, NOAA, Portion of funding to Dash: \$392,311.
 20. Bora, G., **Dash, P.**, Digital and Data-Driven Smart Farming Using Unmanned Aircraft Systems and Processing Tool for Useful Format Delivery to End Users, Co-PI, 1/1/2019-12/31/2020, \$198,937, USDA-NIFA, Portion of funding to Dash: \$59,681.
 21. Ma, J., Marufuzzaman, M., **Dash, P.**, Sparks, E. Developing a Marine Debris Removal Logistics Network to Improve Coastal Resilience, Co-PI, 1/1/2019-6/30/2020, \$124,926, National Fish and Wildlife Foundation, Portion of funding to Dash: \$21,236.
 22. Ma, J., Marufuzzaman, M., Shahavari, O., **Dash, P.** Sustainable Waste Management System Development to Reduce Marine Debris in Kalpitiya, Sri Lanka, Co-PI, 9/1/2018-8/31/2020, \$246,478.76, U.S. Department of State, Portion of funding to Dash: \$61,619.
 23. **Dash, P.** The National Academies of Sciences, Engineering, and Medicine, Gulf Research Program, Early Career Research Fellowship, PI, 9/1/2018-8/31/2020, \$76,000, The National Academies of Sciences, Engineering, and Medicine, Gulf Research Program, Portion of funding to Dash: \$75,000.
 24. Gabitov, R., Paul, V., **Dash, P.**, Kirkland, B., Microbial metabolism and mineralized products as a response to environmental conditions, Co-PI, 4/1/2018-3/31/2019, \$79,999, NSF, Portion of funding to Dash: \$19,999.
 25. Elliott, M., **Dash, P.**, Ambinakudige, S., Investigating the role of illicit household wastewater “straight pipe” discharges on potential oyster fisheries in and around Bay St. Louis, Co-PI, 3/1/2018-2/28/2019, \$74,471, Gulf States Marine Fisheries, Portion of funding to Dash: \$28,479.
 26. Elliott, M., **Dash, P.**, Ambinakudige, S., Lu, Y., Rakocinski, C., Raw wastewater discharges in Alabama and Mississippi: determining the scope and impacts, Co-PI, 1/1/2018-12/31/2018, \$99,995, GOMA, Portion of funding to Dash: \$36,595.
 27. Ambinakudige, S., **Dash, P.**, Elliott, M., Lu, Y., Discharge of untreated wastewater: An integrated geospatial study of water quality, sanitation, health, environmental, social and economic problems in the Alabama Black Belt, Co-PI, 08/01/2018-07/31/2021, \$412,844.00, NSF, Portion of funding to Dash: \$137,614.

28. **Dash, P.**, Ambinakudige, S., Posadas, B., Howden, S., Regional Vulnerability Assessment of Human Communities in the United States Gulf of Mexico Coast to Ocean Acidification, PI, 09/01/2017-08/31/2019, \$349,648, NOAA, Portion of funding to Dash: \$139,860.
29. Ambinakudige, S., **Dash, P.**, Saravan S. A., Vulnerability and adaptations of coastal communities in India, Bangladesh, and Sri Lanka to ocean acidification: an integrated approach involving natural, social and geospatial Sciences for finding place-based solutions to a major global change problem, Co-PI, 07/1/2017-06/30/2018, \$45,870, Asia-Pacific Network, Portion of funding to Dash: \$22,935.
30. Reddy, K. R. R., Ambinakudige, S., **Dash, P.**, Parajuli, P. and Zakaria, A. K. M. Sustainable Intensification Research for Efficient and Resilient Farming System for Small Holders in Bangladesh, Co-PI, 10/1/2015-9/30/2019, \$858,197, USAID, Portion of funding to Dash: \$214,549.
31. Parajuli, P., **Dash, P.** and Ouyang, Y., Evaluation of downstream nutrient loadings through watershed spatial and temporal scales agroecosystems in Mississippi, Co-PI, 1/1/2016-12/31/2018, \$499,535, USDA, Portion of funding to Dash: \$124,883.
32. Fuhrmann, C., Clary, R., Sherman-Morris, K., and **Dash, P.**, C4: Connected Communities for Citizen Climate, Co-PI, 01/01/2017 – 12/31/2020, \$499,984, NOAA, Portion of funding to Dash: \$124,996.
33. Clary, R., **Dash, P.**, Sherman-Morris, K., and Ambinakudige, S., GP: IMPACT Geosciences Streamlined Pipeline And Research for Community Colleges (Geo-SPARCC), Co-PI, 8/1/2016-7/31/2019, \$355,645, NSF, Portion of funding to Dash: \$88,911.
34. Nagaraju, A., Ambinakudige, S., **Dash, P.**, Parajuli, P., and Reddy, R., A multidisciplinary study on the environmental quality of water bodies in India and the US using geomorphology, hydrology and remote sensing approaches, Co-PI, 1/1/2016-12/31/2018, \$200,000, University Grants Commission, India, Portion of funding to Dash: \$50,000.
35. **Dash, P.**, Amin, R., Reda, M., and Gremes-Cordero, S., Effects of Oil and Dispersant on Phytoplankton and Dissolved Organic Matter in Coastal Waters, PI, 1/1/16-12/31/18, \$715,821, Gulf of Mexico Research Alliance, Portion of funding to Dash: \$270,346.
36. Interis, M., Freeman, M., **Dash, P.**, Petrolia, D., and Gaunt, P., The Cost of HABs and the value of HAB forecasts to the Gulf of Mexico, Co-PI, 9/1/2015-8/31/2017, \$459,837, NSF, Portion of funding to Dash: \$101,164.
37. **Dash, P.** and Parajuli, P, Integrated Assessment of Pollutant Sources in Pascagoula River Watershed and Water Quality in Eastern Mississippi Sound, PI, 12/01/2014-11/30/2016, \$129,951, MS-AL Seagrant, Portion of funding to Dash: \$88,164.

38. McAnally, W., **Dash, P.** and Gallegos, S., Identification of Pollutant Sources, Co-PI, 10/1/2014-09/30/2017, \$525,319, NASA, Portion of funding to Dash: \$210,127.
39. Kirkland, B., **Dash, P.**, and Gabitov, R., The role of microbes and organic matter in the genesis of complex carbonate microfacies and lithologies, in the sacramento mountains, New Mexico, Co-PI, 05/15/2014-05/14/2016, \$307,775, NSF, Portion of funding to Dash: \$102,591.
40. **Dash, P.**, Ambinakudige, S., Cooke, W. H., and Boyd, C., Measurement and Monitoring of Algal Blooms in the Eastern Mississippi Sound using Multiple Satellite Sensors and Source-Tracking the Pollutants from the Pascagoula River Watershed, PI, 3/1/2014-2/28/2017, \$299, 998, U.S. Environmental Protection Agency - Gulf of Mexico Program, Portion of funding to Dash: \$119,999.
41. **Dash, P.**, Detection and mapping of cyanobacterial harmful algal blooms using data from multiple satellite sensors in four large mississippi lakes, PI, 01/01/2014-12/31/2015, \$10,000, Oak Ridge Associate Universities (ORAU), Portion of funding to Dash: \$10,000.
42. **Dash, P.** and Ma, D., Increasing the Photosynthesis Efficiency of Phytoplankton, PI, 01/01/2014-12/31/2015, \$12,000, NSF and Davidson College, Davidson, NC, Portion of funding to Dash: \$12,000.
43. **Dash, P.**, Begonia, M., Ayensu, W., and Ikenga, J., Detection and mapping of cyanobacterial harmful algal blooms using data from multiple satellite sensors in four large Mississippi lakes, PI, 01/15/2013-12/15/2013, \$5,000, Creative Awards for Faculty and Staff, Jackson State University, Jackson, MS, Portion of funding to Dash: \$4,000.
44. Ayensu, W., **Dash, P.**, Isokpehi, R., and Ikenga, J., Quantification of Heterophile microbes in Ecological Competition with Harmful Algal Blooms in Mississippi Water ways, Co-PI, 01/15/2013-12/15/2013, \$5,000, Creative Awards for Faculty and Staff, Jackson State University, Jackson, MS, Portion of funding to Dash: \$2,000.
45. **Dash, P.** and Das, H., MSHABS (Mississippi Harmful Algal Blooms): A ne-stop website on the water quality of the inland lakes and coastal Mississippi, PI, 01/01/2014 – 12/31/2014, \$100,000, Army Corps of Engineers, Vicksburg, MS, Portion of funding to Dash: \$75,000.
46. Peterson et al., Advancing Basic & Applied Research through Genomics, Co-I, 5 yrs, \$20 Million, NSF EPSCoR, Portion of funding to Dash: \$20,000.
47. Yu et al., GIS-Based Decision Support Systems for Assessment of Climate Change Impacts on Water Quality, Pollutant Loadings and Bioaccumulation, and Associated Health Risks, Co-I, 5 yrs, \$20 Million, NSF EPSCoR, Portion of funding to Dash: \$20,000.

48. Walker, N., **Dash, P.**, Bargu, S., and D'Sa, E., Rapid detection of cyanobacterial blooms using near real-time satellite data in an urban oligohaline estuary, Lake Pontchartrain, Louisiana, 9/1/2012-8/31/2015, \$651,067.00, NOAA, Portion of funding to Dash: \$315,000.
49. Walker, N., Bargu, S., **Dash, P.**, and Garcia, A., Detecting and quantifying toxic cyanobacterial blooms using Oceansat-1 OCM satellite data, 7/1/2008-7/31/2009, \$56,000.00, COYPU Foundation Trust, New Orleans, LA, Portion of funding to Dash: \$35,000.

TEACHING

- Courses teaching at MSU
 - Remote Sensing of the Physical Environment (GR 6333/4333), Every Fall, Class size- 30
 - Field Remote Sensing (GR 8333), Every Fall, Class size-15
 - Advanced Remote Sensing (GR 6343/4343), Every Spring, Class size- 30
 - Environmental Geology (GG 3133), Every Spring, Class size- 30
 - Water Biogeochemistry (GG 8633), Every Alternate Spring, Class size- 15
- Courses previously taught at MSU
 - Water Resources (GG 3613), Fall 2013 & 2014, Class size- 60
- Courses approved by UCCC to be taught at MSU
 - Aerial Drone Applications in Geosciences (GR 4383/6383), TBD, Class size- 30
- Courses taught at JSU
 - Introduction to Remote Sensing for Environmental Science (ENV 717/BIO 617), Every Spring, Class size- 45
 - Introduction to Remote Sensing for Environmental Science (ENVL 717/BIOL 617), Every Spring, Class size- 45
 - Applications of Remote Sensing in Environmental Science (ENV 718/BIO 618), Every Fall, Class size- 45
 - Applications of Remote Sensing in Environmental Science (ENVL 718/BIOL 618), Every Fall, Class size- 45
 - Environmental Science Lecture/Laboratory (BIO 201/BIOL 201), Every Fall, Class size- 30
 - Introduction to Marine and Environmental Science (BIO 114), Every Fall & Spring, Class size- 55
- Courses taught at LSU
 - Introductory Oceanography (OCS 1005), Fall, 2008 and Spring, 2009, Class size- 120
- Courses taught at BGSU
 - Graduate level - Geographic Info. Systems Lab (Geol 503), Fall of 2004, Class size- 24
 - Life Through Time (Geol 105), Fall of 2003 and Spring of 2004, Class size- 30

**FUNDING RECEIVED FOR SUPPORTING UNDERGRADUATE STUDENT RESEARCH
(Total: \$84,491; Portion to Dash: \$84,491)**

1. Skarke, A. and **Dash, P.** Evaluation of phytoplankton community structure and algal toxins in the western Mississippi Sound, Co-PI, 5/1/2024-8/15/2024, \$14,997, Mississippi Based RESTORE Act Center of Excellence (MBRACE), Portion of funding to Dash: \$14,997. (Supported the research of 1 student: Ellora Dey).
2. Linhoss, A., **Dash, P.**, Parajuli, P., Moorhead, R. J., Potential risk of harmful algal blooms to oysters and human health in the western Mississippi Sound, Co-PI, 5/1/2021-8/15/2021, \$14,994, Mississippi Based RESTORE Act Center of Excellence (MBRACE), Portion of funding to Dash: \$14,994. (Supported the research of 1 student: Preston Liles).
3. **Dash, P.**, How water quality affects fisheries and human health in the Western Mississippi Sound, PI, 05/21/2018-07/27/2018, \$13,000, Mississippi INBRE, University of Southern Mississippi, Hattiesburg, MS, Portion of funding to Dash: \$13,000. (Supported the research of 2 students: Leah Jackson & Javia Anderson).
4. **Dash, P.**, Detection and mapping of cyanobacterial harmful algal blooms using satellite data in four Mississippi lakes, PI, 05/13/2014-07/26/2014, \$6,500, Mississippi INBRE, University of Southern Mississippi, Hattiesburg, MS, Portion of funding to Dash: \$6,500. (Supported the research of 1 student: Rayford Parnell).
5. **Dash, P.**, Detection and mapping of cyanobacterial harmful algal blooms using satellite data in four Mississippi lakes, PI, 05/13/2013-07/26/2013, \$15,000, Mississippi INBRE, University of Southern Mississippi, Hattiesburg, MS, Portion of funding to Dash: \$15,000. (Supported the research of 3 students: Michael Collins, Tasha Norwood, & Grant Ikenga).
6. **Dash, P.**, Detection and mapping of cyanobacterial harmful algal blooms using satellite data in four Mississippi lakes, PI, 05/13/2012-07/26/2012, \$20,000, Mississippi INBRE, University of Southern Mississippi, Hattiesburg, MS, MS, Portion of funding to Dash: \$20,000. (Supported the research of 4 students: Daniel Kibet, Winny Tanui, Marlon Flowers, & Joyce Chumo).

TEACHING GRANT PROPOSALS UNDER REVIEW (Total: \$4,998,478; Portion to Dash: \$749,695)

1. Pricope, N., **Dash, P.**, Rodgers, J., Tkach, B., Potter, M., and Mofatt, B. Project GeoVision: A comprehensive GEOINT learning model for the U.S. intelligence community, Co-PI, 7/31/2024 to 7/30/2033, \$2,500,000, Office of the Director of National Intelligence, Portion of funding to Dash: \$250,000.
2. Pricope, N., **Dash, P.**, Dabiru, L., Samiappan, S., and Gurbuz, A. Empowering GEOINT Futures: Advancing SAR Capabilities through Automation and Educational Integration, Co-PI, 9/1/2024 to 8/31/2029, \$2,498,478, National Geo-spatial Intelligence Agency, Portion of funding to Dash: \$499,695.

TEACHING GRANT PROPOSALS SUBMITTED BUT NOT FUNDED (Total: \$4,618; Portion to Dash: \$3,000)

1. **Dash, P.** and Ambinakudige, S. Flight to Insight: Hands-on Geoscience with Drone Remote Sensing, PI, 6/1/2024 to 5/31/2025, \$4,618, MSU Center for Teaching and Learning's Otilie Schillig Special Teaching Projects Grant Program, Mississippi State University, Portion of funding to Dash: \$3,000.

STUDENT RESEARCH SUPERVISION

- **Major Professor for Past Post-doctoral Fellow (1):**
Sankar M. S. (2019-2021)
- **Major Professor for Outgoing Ph.D. Students (1):**
Ankita Katkar (Earth & Environmental Sci., Date of defence: 07/23/2024).
Dissertation title: *Variability in water quality parameters in response to weather systems and coastal currents in the Louisiana Continental Shelf.*
- **Major Professor for Current Ph.D. Students (5):**
Wondim Beshah (Earth & Environmental Sci., Tentative completion in 2025).
Dissertation title: *Remote March observations of suspended sediment dynamics in the Mississippi Sound.*
Abduselam Nur (Earth & Environmental Sci., Tentative completion in 2025).
Dissertation title: *Evaluation of land use and land cover impacts on turbidity in the Mississippi Sound.*
Shakiul Islam (Earth & Environmental Sci., Tentative completion in 2025).
Dissertation title: *Analysing the impacts of land use/land cover change and climate variability on net primary productivity of Mississippi Sound.*
Omar Shahed (Earth & Environmental Sci., Tentative completion in 2025).
Dissertation title: *Climatic and land use and land cover impacts on the carbonate system parameters in the Mississippi Sound.*
Hafez Ahmad (Earth & Environmental Sci., Tentative completion in 2026).
Dissertation title: *Remote sensing observations of suspended sediment dynamics in the Mississippi Sound.*
- **Major Professor for Incoming Ph.D. Students (1):**
Onkar Mukherjee (Earth & Environmental Sci., Starting in August 2024).
Dissertation title: *Remote sensing observations of suspended sediment dynamics in the Mississippi Sound.*
- **Major Professor for Past Ph.D. Students (3):**
Sankar M. S. (Earth & Environmental Sci., Graduation: 2019).
Dissertation title: *Characterization and Determination of Biogeochemical Significance of Dissolved Organic Matter in Coastal and Inland Water Bodies.*
Saurav Silwal (Earth & Environmental Sci., Graduation: 2018).
Dissertation title: *Quantification of harmful algal blooms in multiple water bodies of Mississippi using in-situ, analytical, and remote sensing techniques.*

Shatrughan Singh (Earth & Environmental Sci., Graduation: 2017).

Dissertation title: *Influence of land use, land cover, and hydrology on the spatial and temporal characteristics of dissolved organic matter (DOM) in multiple aquatic ecosystems.*

○ **Minor Professor for Past Ph.D. Students (2):**

Razieh Barzin (Ag. And Bio. Engg., Graduation: 2021).

Dissertation title: *Multispectral in-field sensors observations to estimate leaf nitrogen and yield of corn using machine learning.*

Xiaojing Ni (Ag. And Bio. Engg., Graduation: 2018).

Dissertation title: *Evaluation of impacts of conservation practices on surface water and groundwater at watershed scale.*

○ **Committee Member for Current Ph.D. Students (5):**

Christiana Eziashi (Earth & Environmental Sci., Tentative completion in 2025).

Dissertation title: *Assessment of water quality and remediation of heavy metals in a coastal system.*

Mustafa Rezaei (Earth & Environmental Sci., Tentative completion in 2025).

Dissertation title: *Elemental incorporation by calcite growing on the substrate in modified seawater solution.*

Anh Nguyen (Earth & Environmental Sci., Tentative completion: TBD).

Dissertation title: *Evaluation of Fluid-Rock Interactions to Solve Emerging Environmental Issues.*

Craig Millard (Earth & Environmental Sci., Tentative completion: TBD)

Dissertation title: *Sensitivity of Land Use and Land Cover Changes on Convective Processes.*

Derek Anderson (Earth & Environmental Sci., Tentative completion: TBD)

Dissertation title: *Investigating the potential role of humans in North American Pleistocene extinction events: A case study from Mississippi.*

○ **Committee Member for Past Ph.D. Students (18):**

Zia Ahmad (Earth & Environmental Sci., Graduation: 2024).

Dissertation title: *Constraints and challenges for ensuring food security in the northern and south-western region of Bangladesh: A policy, hazards, and climate change perspective.*

Angel Jimenez (Earth & Environmental Sci., Graduation: 2022).

Dissertation title: *Immobilization of Uranium and Iodine by Calcium Phosphate Minerals.*

Hossein Lotfi (Earth & Environmental Sci., Graduation: 2022)

Dissertation title: *Sensitivity of Land Use and Land Cover Changes on Convective Processes.*

Jannatul Ferdush (Earth & Environmental Sci., Graduation: 2022)

Dissertation title: *Effects of elevated CO₂ on soil inorganic carbon pools.*

Thu Ya Kyaw (Earth & Environmental Sci., Graduation: 2022)

- Dissertation title: *Using hyperspectral leaf reflectance to estimate the photosynthetic capacity and nitrogen content of eastern cottonwood and hybrid poplar genotypes.*
- Raul Osorio (Ag. And Bio. Engg., Graduation: 2021).
- Dissertation title: *Assessment and optimization of marsh terracing for wetland restoration in the northern Gulf of Mexico using remote sensing and a wave model.*
- Supriya Nagpal (Physics, Graduation: 2021).
- Dissertation title: *Implementation of second-order correlation spectroscopy (SOCOS) via all-Gaussian coherent Stokes and anti-Stokes Raman scattering.*
- Keith Tischler (Earth & Environmental Sci., Graduation: 2021)
- Dissertation title: *The Role of Microbes and Organic Matter in the Genesis of Complex Carbonate Facies and Lithologies in the Sacramento Mountains.*
- Avay Risal (Ag. And Bio. Engg., Graduation: 2020).
- Dissertation title: *Assessment of nutrient sources at watershed scale in agro-ecosystem of Mississippi.*
- Yongwoo Cho (Earth & Environmental Sci., Graduation: 2020)
- Dissertation title: *Three-dimensional modelling of outcrops.*
- Julia Domenech (Earth & Environmental Sci., Graduation: 2020).
- Dissertation title: *Remote Sensing of water quality and geoscience education.*
- Aynaz Lotfata (Earth & Environmental Sci., Graduation: 2019)
- Dissertation title: *Origins and Processes of Groundwater Salinization band Depletion: A Spatial and Temporal Multiscale Approach.*
- Jamie McFadden (Earth & Environmental Sci., Graduation: 2018).
- Dissertation title: *Remote Sensing and GIS of biodiversity habitats.*
- Brittney Garner (Earth & Environmental Sci., Graduation: 2017).
- Dissertation title: *Carbonate mineralization as a function of temperature and pressure.*
- Chris Zarzar (Earth & Environmental Sci., Graduation: 2017)
- Dissertation title: *Hydrometeorological modelling of Lower Pearl River Estuary*
- Pushkar Inamdar (Earth & Environmental Sci., Graduation: 2017).
- Dissertation title: *Spatiotemporal Analysis of Glacier Mass Variations in the South Western Regions of South and North America.*
- Jeremy Weremeichik (Ph.D. Earth & Environmental Sci., Graduation: 2016)
- Dissertation title: *Environmental and growth rate effects on trace element incorporation to calcite and aragonite: An experimental study.*
- Michael Maguigan (Ph.D. Earth & Environmental Sci., Graduation: 2015).
- Dissertation title: *Primary differences between function and productivity of coastal and montane wetland ecosystems.*
- **Major Professor for Outgoing M.S. Students (2):**
- John Preston Liles (Geosciences, Successful defence: 03/20/2024, Graduation: August 2024).
- Thesis title: *Estimation of Cyanobacterial Concentrations from Uncrewed Aircraft Systems Imagery over the Western Mississippi Sound, Gulf of Mexico.*

- Brooke Walker (Geosciences, Successful defence: 06/17/2024, Graduation: August 2024).
Thesis title: *The Loggerhead sea turtle and the use of remote sensing and suitability indices in conservation of threatened and endangered species.*
- **Major Professor for Current M.S. Students (1):**
George Wishork (Geosciences, Graduation: December 2024). Non thesis M.S. Degree.
 - **Co-Major Professor for Current M.S. Students (1):**
Rusch Ragland (Geosciences, Graduation: May 2025).
Thesis title: *Estimation of coloured dissolved organic matter from Uncrewed Aircraft Systems Imagery over the Western Mississippi Sound, Gulf of Mexico.*
 - **Major Professor for Past M.S. Students (7):**
Peter McKinley (Geosciences, Graduation: 2023). Non thesis M.S. Degree.
Robert Craven (Geosciences, Graduation: 2021).
Capstone project: *Change Detection in the Huntsville, Alabama Area using ERDAS Imagine DeltaCue*
Landon Sandors (Geosciences, Graduation: 2019).
Thesis title: *Evaluation of Land Use and Land Cover Classification methods in classifying crop types.*
Sudeera Wickramaratna (Geosciences, Graduation: 2019).
Thesis title: *Remote Sensing observations of colored dissolved organic matter in the Mississippi Sound.*
Victoria Cheek (Geosciences, Graduation: 2018).
Thesis title: *Influence of discharge patterns and land use land cover of a watershed on the water quality of a reservoir.*
Madhur Devkota (Geosciences, Graduation: 2018).
Thesis title: *An improved algorithm for estimating Total Alkalinity in the Northern Gulf of Mexico.*
Sushant Shekhar (Geology, IIT, Roorkee, Graduation: 2018).
Thesis title: *Comparative Study of Groundwater trends and factors affecting them in Mississippi River Watershed (USA) AND Indo-Gangetic Plains (India).*
 - **Committee Member for Outgoing MS Students (2):**
Emma Tucker (Geosciences, Successful defence: 06/17/2024, Graduation: August 2024).
Thesis title: *Using an Autonomous Surface Vessel and FlowCam Imaging to Determine Current Algal Trends and 100-Year Trends for Anabaena flos-aquae and Phaeodactylum tricornutum*
Ben Taylor (Geosciences, Graduation: August 2024)
Thesis title: *Examining the Effectiveness of Treated Biochar in Removing Nitrates and Phosphates from Varied Soil Lithology.*
 - **Committee Member for Current MS Students (3):**
Nishat.Shermin (Geosciences, Graduation: TBD).
Thesis title: *Classifying fractional vegetation in rangeland: A machine learning based remote sensing approach using UAV and Sentinel-2*
Jordan.McDaniel (Geosciences, Graduation: TBD).

- Thesis title: *Remote sensing of Floating vegetation.*
- Nick Chastian (Geosciences, Graduation: TBD)
Thesis title: *identifying hurricane-induced vegetation damage in Puerto Rico following Hurricane Maria.*
- **Committee Member for Past M.S. Students (16):**
 - Bernanrd Abubakari (Geosciences, Graduation: 2024).
Thesis title: *Analysis of Glaciers Changes in the western United States: Assessing Area, Volume, and Albedo Changes*
 - Gabriel Hernandez (Geosciences, Graduation: 2023).
Thesis title: *Evaluating the relationship between methane seeps and seafloor geomorphology on the northern US Atlantic margin.*
 - Leta McCullough (Geosciences, Graduation: 2023).
Thesis title: *Morphological and structural characterization of shortening landforms on Mars.*
 - Shreeya Bhattarai (Ag. And Bio. Engg., Graduation: 2023).
Thesis title: *Hydrological and water quality assessment of forested coastal watersheds.*
 - James Cox (Geosciences, Graduation: 2022).
Thesis title: *Use of consumer grade small unmanned aerial systems for mapping storm damage in forested environments.*
 - Adjoa Insitful (Geosciences, Graduation: 2020).
Thesis title: *Glacier change assessment of the Columbia Icefield in the Canadian Rocky Mountains, Canada (1985 – 2018)*
 - Madison Dixon (Geosciences, Graduation: 2018).
Thesis title: *Geospatial accuracy of prosumer small unmanned aircraft systems*
 - Shannon Vattikuti (Geosciences, Graduation: 2018).
Thesis title: *Characterizing the groundwater quality of the Upper Pearl River watershed in Central Eastern Mississippi.*
 - Marvin Kunath (Geosciences, Graduation: 2018).
Thesis title: *Substrate availability in the Upper Cretaceous oyster *Exogyra costata*.*
 - Devon Flickinger (Geosciences, Graduation: 2017).
Thesis title: *Analysis of suspended particulate matter concentrations in Weeks Bay, Alabama using Landsat imagery.*
 - John Van Horn (Geosciences, Graduation: 2016).
Thesis title: *Potential of Unmanned Aerial Systems imagery relative to Landsat 8 imagery in the Lower Pearl River Basin.*
 - Danielle Merritt (Geosciences, Graduation: 2016).
Thesis title: *Estimation of suspended particulate matter concentration in the Mississippi Sound using MODIS imagery.*
 - Jeremy Foote (Geosciences, Graduation: 2016).
Thesis title: *An examination of the hydrological environment in Choctaw County Mississippi since 1995, with a focus on an area surrounding an industrial complex established in 1998.*

Cheryl McLaurin (Geosciences, Graduation: 2015).

Thesis title: *Investigating the relationship between stream gauge stage and nearby soil moisture in a longleaf pine biome.*

Bruce Smylie (Geosciences, Graduation: 2015). Non thesis M.S. Degree.

Lucy Tetteh (Geosciences, Graduation: 2014).

Thesis title: A multi-decadal remote sensing study on glacial change in the North Patagonia Ice field, Chile.

○ **Research Advisor for Current Undergraduate Students (1):**

Ellora Dey (major: Geosciences, Mississippi State University, Summer 2024).

○ **Research Advisor for Past Undergraduate Students (29):**

Matthew Parish (major: Geosciences, Mississippi State University, 2023-2024)

Molly Bears (major: Geosciences, Mississippi State University, Spring 2023)

Kayla Anastasio (major: Geosciences, Mississippi State University, Summer 2022).

Preston Liles (major: Geology, University of Arkansas, Fort Smith, Summer 2021)

Mallory Hunt (major: Geosciences, Mississippi State University, 2018-2019).

Brian Roberts (major: Geosciences, Mississippi State University, Summer 2018).

Leah Jackson (major: Biology, East MS Community College, Summer 2018).

Javia Anderson (major: Biology, Meridian Community College, Summer 2018).

Audra Sawyer (major: Geosciences, Mississippi State University, 2017-2018)

Haley Ray (major: Geosciences, Mississippi State University, 2015-2016)

Dustin Hampton (major: Geosciences, Mississippi State University, 2015-2016)

Luciano Mendoza (major: Geosciences, Mississippi State University, 2015-2016)

Brandan Berenato (major: Geosciences, Mississippi State University, 2015-2016).

Landon Sanders (major: Geosciences, Mississippi State University, 2015-2016).

Kyaw Khine (major: Geosciences, Mississippi State University, Fall 2015).

Rayford Parnell (major: Geosciences, Mississippi State University, Summer 2014).

Molly Murdock (major: Wildlife and Fisheries, Mississippi State University, Summer 2014).

David Shelley (major: Geosciences, Mississippi State University, 2013-2014).

Clark Jackson (major: Civil and Environ. Engg., Mississippi State University, 2013-2014).

LaTia Peavy (major: Biology, Jackson State University, Summer 2013).

Michael Collins (major: Biology, Jackson State University, Summer 2013).

Tasha Norwood (major: Biology, Jackson State University, Summer 2013).

Grant Ikenga (major: Natural Sciences, Mississippi Valley State University, Summer 2013).

Tanajia Coleman (major: Biology, Jackson State University, Summer 2013).

Daniel Kibet (major: Biology, Mississippi Valley State University, Summer 2012)

Winy Tanui (major: Natural Sciences, Mississippi Valley State University, Summer 2012)

Marlon Flowers (major: Natural Sci., Mississippi Valley State University, Summer 2012)

Joyce Chumo (major: Biology, Mississippi Valley State University, Summer 2012)

Meredith Hunt (major: Marine Science, Louisiana State University, 2007-2009).

○ **Course Advisor for Current Undergraduate Students (6)**

○ **Course Advisor for Past Undergraduate Students (45)**

KEY RECENT TEACHING ACTIVITIES

- Developed a new course, “Aerial Drone Applications in Geosciences (GR 4383/6383)”, which was approved by UCCC.
- Modified course proposals for GR 4333/6333, GR 4343/6343, and GG 3133 for online offering and received approval from UCCC.
- Recorded lecture videos and prepared comprehensive online teaching materials for the above three courses for online teaching.
- Taught GR 4333/6333 and GG 3133 online multiple times and have been teaching GR 4343/6343 online every summer.
- Received a teaching evaluation score of 4.7/5 after teaching GR 4333/6333 online for the first time, the highest score ever received for this distance learning course.
- Shared online course materials for GR 4333/6333 with a junior faculty member and for GG 3133 with a graduate teaching assistant.
- Completed administering comprehensive examinations and proposal defenses for five Ph.D. students, one of whom will defend in July 2024.
- Two advised M.S. students with theses will graduate in August 2024; one advised M.S. student with a capstone research project graduated in 2021, and one advised non-thesis M.S. student graduated in 2023.
- Currently advising one non-thesis M.S. student and co-advising an M.S. student with a thesis.
- Supervised the research of five undergraduate students.
- Teaching evaluation conducted by CTL faculty.
- Submitted teaching grants worth \$5,033,087 of which two were awarded (\$29,991), two are pending (\$4,998,478; my share: \$749,695), and one was not awarded.
- Attended CTL courses and workshops:
 - Mississippi Artificial Intelligence Network
 - Teaching Portfolio Workshop
 - Serving the Whole Student: Using Data to Measure the Student Well-Being Experience

PROFESSIONAL SERVICE

- Serving as a member of the National Steering Committee for the Gulf of Mexico Coastal Acidification Network (GCAN). GCAN facilitates, synthesizes, and communicates the state of coastal and ocean acidification science in the Gulf of Mexico region, coordinating with regional efforts across the U.S. and the Caribbean, as well as the NOAA’s Ocean Acidification Program and other federal resource managers. I attended monthly meetings and coauthored a review article, “Ocean acidification in the Gulf of Mexico: drivers, impacts, and unknowns”, which was published in the journal *Progress in Oceanography*.
- Editing activities:
 - Associate editor for the journal *Frontiers in Marine Science*, 2023-present.
 - Special issue editor for the journal *Remote Sensing* with the special issue “Remote Sensing Applications in Agricultural Ecosystems”, 2020-2022.

- Special issue editor for the journal *Remote Sensing* with the special issue “Remote Sensing of Natural Disasters”, 2021-2023.
- Reviewing activities:
 - Reviewed 3 proposals for the NASA postdoctoral fellowship program (2023)
 - Reviewed 3 proposals for the NASA EPSCoR R3 program (2023)
 - Reviewed 4 proposals for the Louisiana NASA EPSCoR program (2022)
 - Reviewed 1 proposal for the NOAA Unmanned Aircraft Systems Program (2017)
 - Reviewed 1 proposal for the NSF Geography & Spatial Sciences program (2016)
 - Served as reviewer for the following journals (28 total journals):
 - *Remote Sensing of Environment*, 2012-present.
 - *Journal of Geophysical Research- Oceans*, 2018-present.
 - *IEEE Transactions in Geoscience and Remote Sensing*, 2011-present.
 - *Remote Sensing*, 2013-present.
 - *Journal of Applied Phycology*, 2012-present.
 - *International Journal of Digital Earth*, 2013-present.
 - *Advances in Space Research*, 2013-present.
 - *Science of the Total Environment*, 2013-present.
 - *Plos One*, 2015-present.
 - *Water*, 2015-present.
 - *Estuarine, Coastal and Shelf Science*, 2015-present
 - *Estuaries and Coasts*, 2016-present
 - *Water, Air, & Soil Pollution*, 2016-present.
 - *Journal of Environmental Quality*, 2016-present.
 - *Cogent Geoscience*, 2016-present.
 - *Cogent Chemistry*, 2016-present.
 - *Cogent Food & Agriculture*, 2016-present.
 - *International J. of Environmental Research and Public Health*, 2016-present.
 - *Clean Soil, Air, & Water*, 2015-present.
 - *Environmental Science & Technology*, 2020-present
 - *Southeastern Geographer*, 2023-present.
 - *Frontiers of Marine Science*, 2021-present.
 - *Journal of Environmental Management*, 2022-present.
 - *Hydrobiologia*, 2022-present.
 - *Water Research*, 2017-present.
 - *Advances in Remote Sensing*, 2016-present.
 - *Applied Remote Sensing*, 2015-present.
 - *Soil and Water Conservation*, 2014-present.
- Technical program committee membership for the *Global OCEANS 2023 Conference and Exposition* (primary duties included reviewing abstracts).
- Mentor, Mississippi IDeA Network of Biomedical Research Excellence (MS INBRE), 2012-present (mentored 11 undergraduate students)
- Session Chair: Remote Sensing of Physical Environment using Unmanned Aerial Systems, 72nd Annual Meeting of the Southeastern Division of the AAG, Starkville, MS, November 19-20, 2017.

- Judge: oral and poster presentations in the Coastal and Estuarine Research Federation 23rd Biennial Conference, November 8-12, 2015, Portland, OR.
- Technical program committee membership for the 2014 *Mississippi Academy of Sciences Annual Meeting* (primary duties included reviewing abstracts).
- Session Chair: Zoology and Entomology, Mississippi Academy of Sciences Annual Meeting (2014)
- Judge: Science exhibits in Mississippi Science and Engineering Fair - Region II, Jackson, MS (2012)
- Judge: Student Poster Competition in the 9th International Symposium on Recent Advances in Environmental Health Research, Jackson, MS (2012)
- Volunteer: ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (2011)
- Session Chair: Recent Advances in Satellite Oceanography I Posters, AGU Fall Meeting, San Francisco, CA (2011)

PROFESSIONAL AFFILIATIONS

- a) Association for the Sciences of Limnology and Oceanography (ASLO)
- b) American Geophysical Union (AGU)
- c) American Association of Geographers (AAG)
- d) Coastal and Estuarine Research Federation (CERF)

UNIVERSITY, COLLEGE, AND DEPARTMENT SERVICE

- University Committee on Courses and Curricula, 2018 – Present.
 - Served on subcommittees 13 times.
 - Reviewed 125 course proposals and 15 program proposals as a part of the assigned subcommittees, presenting issues with the proposals.
- University Library Committee, 2020 – 2022.
 - Attended scheduled meetings and actively participated in discussions.
- College of Arts & Sciences Committee on Courses and Curricula, 2020 – 2023.
 - Reviewed all course and program proposals submitted to the college and actively participated in discussions of the proposals.
- Department of Geosciences Curriculum Committee, 2020 – 2023.
 - Reviewed all course proposals submitted to the department and emailed the review comments.
- Department of Geosciences Strategic Planning Committee, 2020 – present.
 - Attended scheduled meetings and actively participated in discussions.
 - Reviewed strategic plans of Geography and GIS programs of 14 other universities.
 - Reviewed the SWOT analysis results from 2021 and 2014.
 - Summarized the SWOT survey results from all faculty, on-campus graduate students, on-campus undergraduate students, all distance learning students, and all staff and provided the committee with a 57-page summary report.
- Building operator for Hilbun Hall and Geosciences labs in Buckner and Etheredge Hall, 2014 – present

- Accompanied university's Operational & Health Safety staff to each of the rooms and opened the doors for safety review and closed them afterwards.
- Followed up with the Operational & Health Safety staff with the resolution of the safety hazards found.
- Ordered the required safety gears (masks, sanitizers etc.) during COVID-19 pandemic from the university and picked them up for the department's use.
- Department of Geosciences Awards Committee, 2023 – 2025.
- Department of Geosciences Action Committee, 2014 – 2023.
- Department of Geosciences Building and Infrastructure Committee, 2014 – 2023.
- Department of Geosciences Diversity Committee, 2021 – 2023.
- Search Committee, Assistant Professor Position in Human Geography, 2016 – 2017.
- Search Committee, Assistant Professor Position in Environmental Geology, 2016 – 2017.
- Search Committee, Assistant Professor Position in Geology, 2021 – 2022.
- Received Adult CPR AED, April 2024.
- Served as a judge for the 2023 Earth Day – Earth as Inspiration Competition held by the Dunn-Seiler Museum of the Department of Geosciences

COMPUTATIONAL EXPERIENCE

- Programming Languages: IDL, MATLAB, PYTHON, FORTRAN-90, HTML
- Packages: SeaDAS, ENVI, ERDAS Imagine, ER Mapper, Arc GIS, SAS, MINITAB

CREDENTIALS AND AWARDS

- Department of Geosciences nominee for the Arts & Sciences Faculty Research Award, Spring 2022.
- Department of Geosciences nominee for the Dean's Eminent Scholar Award, Fall 2022.
- Invited for scientific peer review for NASA postdoctoral fellowship program proposals (2024)
- A paper published in the *Environmental Monitoring & Assessment* journal was listed on SSRN's top ten download list (2023)
- Invited and served as a reviewer for proposals to the NASA postdoctoral fellowship program (2023)
- Invited and served as a reviewer for proposals to the NASA EPSCoR R3 program (2023)
- Invited and served as a reviewer for proposals to the Louisiana NASA EPSCoR program (2022)
- Invited and served as a reviewer for proposals to the NOAA Unmanned Aerial Systems Program (2017)
- Invited and served as a reviewer of NSF proposals for the Geography & Spatial Sciences program (2016)
- Invited for scientific peer review for NASA CASIS proposals (2014)
- Selected to the Academy for Research and Scholarly Engagement, JSU (2012)

- Travel Award, AGU Fall Meeting, San Francisco, CA (2011)
- Travel Award, ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (2011)
- Best Poster Award, Graduate Student Symposium, LUMCON, Cocodrie, LA (2008)
- Second Best Poster Award, Northern Gulf Institute Conference, Biloxi, MS (2008)
- Travel Award, 4th Symposium on Harmful Algae in the US, Woods Hole, MA (2007)
- Representative to Graduate Student Senate (GSS), BGSU (2004).
- Representative to Student Achievement Assessment Committee, BGSU (2004)
- Secured 4th position in All India Entrance Examination for IIT Bombay MS Applied Geology Admission Test (2001)
- Awarded Merit Cum Means (MCM) scholarship at IIT Bombay (2001-2003)
- Qualified Graduate Aptitude Test in Engineering (GATE), India (2001)
- Qualified Council of Scientific and Industrial Research National Eligibility Test (CSIR-NET), India (2001)
- Junior and Senior National Merit Scholarship, Ministry of HRD, India (1994 - 1996)

FEATURED IN MEDIA

https://www.nola.com/news/environment/article_5ed1a994-9c32-11e9-9695-bb42b9b7a073.html

<https://news.olemiss.edu/biologist-explores-nutrient-removal-in-mississippi-river-backwaters/>

https://www.dafvm.msstate.edu/sites/default/files/2022-05/Landmarks_v18n1_web.pdf