**Debolina Chakraborty, Ph.D.**
Research Assistant Professor
Biosystems Engineering Department
Auburn University, Auburn, AL 36849
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## Education:

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| Ph.D., University of Florida, U.S. | Soil Science | 2011 |
| M.S., Calcutta University, India | Agricultural Chemistry and Soil Science | 2006 |
| B.S., Calcutta University, India | Chemistry | 2004 |

## Professional Experience:

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| **Research Assistant Professor** | Biosystems Engineering, Auburn University | Feb. 24-Present |
| **Research Fellow** | Crop, Soil and Environmental Sciences, Auburn University | Oct. 18-Jan. 24 |
| **Post-doctoral Associate** | Agronomy Department, University of Florida | Jan. 12-July 15 |

## Research Interests

- Improving the sustainability of agricultural systems through better management of nutrients from synthetic fertilizers and animal manure.
- Fate and transport of phosphorus in agricultural systems.
- Soil legacy phosphorus and its impact on agricultural production and water quality.
- Greenhouse gas emissions and mitigation from agricultural systems.
- Emerging contaminants in agricultural systems.

## Awards and Honors:

2021: **Outstanding Publication with High Scientific Impact,** College of Agriculture, Auburn University, Auburn (Bhatta, A., R. Prasad, **D. Chakraborty**, J. Shaw, J. Lamba, E, Brantley, and H. Torbert. 2021. Mehlich 3 as a universal soil test extractant for environmental phosphorus risk assessment across Alabama soil regions. Agrosystem. Geosci. Environ. 4(3):1-15. https://acsess.onlinelibrary.wiley.com/doi/10.1002/agg2.20187)

2020: **National Finalist in Applied Research (Poster)** - New tools to identify phosphorus hotspots and predict phosphorus loss risk from manure impacted soils. National Association of County Agricultural Agents. Authors: **D. Chakraborty**, R. Prasad.

2020: **Regional Winner in Applied Research (Poster)** - New tools to identify phosphorus hotspots and predict phosphorus loss risk from manure impacted soils. National Association of County Agricultural Agents. Authors: **D. Chakraborty**, R. Prasad.

2020: **State Winner in Applied Research (Poster)** - New tools to identify phosphorus hotspots and predict phosphorus loss risk from manure impacted soils. National Association of County Agricultural Agents. Authors: **D. Chakraborty**, R. Prasad.

2011: **Alumni Fellow award**, Department of Soil and Water Science, University of Florida.

2011: **Outstanding Graduate Student Award** from the Association of Agricultural Scientists of Indian Origin (AASIO).
2010: **Sam Polston Fellowship**, Department of Soil and Water Science, University of Florida.
2010: **Best poster** presentation at the 11th Annual Soil and Water Science Research Forum.
2009: **Third place** in the Graduate Student competition (poster) Division S-04 ASA-CSSA-SSSA Annual meeting.
2009: **Best Poster presentation** at the 10th Annual Soil and Water Science Research Forum.
2009: **Third place** in the 11th Annual University of Florida Environmental Engineering Sciences Poster Symposium.
2008: **Outstanding achievement certificate** from the University of Florida International Center.
2008: **Third place** in Minority Poster Competition at the annual ASA-CSSA-SSSA conference.
2008: **William K. Robertson Fellowship**, Department of Soil and Water Science, University of Florida.
2008: Received certificate of **outstanding achievement** from the University of Florida International Center.

**Peer-reviewed Research Articles:**

- Feng, H., R. Prasad, and **D. Chakraborty.** 2023. Effects of broiler litter age and application rate on nutrient mineralization under laboratory condition. Agrosystems, Geosciences & Environment. 6:e20445. https://doi.org/10.1002/agg2.20445
- **Chakraborty, D**., and R. Prasad. 2023. Phosphorus management for agriculture and the environment. In H. Rouached, and S. Satbhai (Eds.) Plant Phosphorus Nutrition.Taylor and Francis.
- **Chakraborty, D**., R. Prasad, D. Watts, and H.A. Torbert. 2023. Effectiveness of flue gas desulfurization gypsum in reducing phosphorus solubility in poultry litter when applied as an in-house amendment. Waste Manage. 171 (1):1-9. https://doi.org/10.1016/j.wasman.2023.08.014.
- **Chakraborty, D**., R. Prasad, D. Watts, and H.A. Torbert. 2022. Exploring alternate methods for predicting sorption-desorption parameters for environmental phosphorus loss assessment in poultry litter impacted soils. J. Environ. Manage. 317: 115454. https://doi.org/10.1016/j.jenvman.2022.115454
- **Chakraborty, D**., R. Prasad, A. Bhatta, and H.A. Torbert. 2021. Understanding the environmental impact of phosphorus in acidic soils receiving repeated poultry litter applications. Sci. Total Environ. 779: 146267. https://doi.org/10.1016/j.scitotenv.2021.146267
- Bhatta, A., R. Prasad, **D. Chakraborty**, J. Shaw, J. Lamba, E, Brantley, and H. Torbert. 2021. Mehlich 3 as a universal soil test extractant for environmental phosphorus risk assessment across Alabama soil regions. Agrosystem. Geosci. Environ. 4(3):1-15. https://acsess.onlinelibrary.wiley.com/doi/10.1002/agg2.20187
- **Chakraborty, D**., and R. Prasad. 2021. Stratification of soil phosphorus forms from long-term repeated poultry litter applications and its environmental implication. Environ. Challenges 5, 100374. https://doi.org/10.1016/j.envc.2021.100374
- **Chakraborty, D**., M. Mulvaney, D.L. Rowland, J. Bennett, G. Hochmuth, and S. Galindo. 2017. Increasing the disciplinary breadth in graduate training in agricultural

science to meet the industry need for addressing global food system complexity. Nat. Sci. Educ. 46:1-7.

- Cho, A., **D. Chakraborty**, and D.L. Rowland. 2017. Gender representation in faculty and leadership at land grant and research institutions. Agron. J. 109(1):14-22.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2012. Compositional differences between Alaquods and Paleudults affecting phosphorus sorption-desorption behavior. Soil Sci. 177:188-197.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2012. Environmentally-relevant phosphorus retention capacity of sandy coastal plain soils: implications for management. Soil Sci. 177:701-707.
- **Chakraborty, D**., V.D. Nair, M. Chrysostome, and W.G. Harris. 2011. Soil phosphorus storage capacity in manure-impacted Alaquods: implications for water table management. Agric. Ecosyst. Environ. 142:167-175.

**Peer-reviewed Extension Articles:**

- **Chakraborty, D.,** and R. Prasad. 2023. Phosphorus basics: understanding the types of phosphorus species present in water that can disrupt the health of freshwater systems ANR-3057.
- **Chakraborty, D**., and R. Prasad. 2023. Phosphorus management: best management practices for minimizing phosphorus loss from agricultural soils. ANR-3010 https://www.aces.edu/blog/topics/crop-production/phosphorus-management-best-management-practices-for-minimizing-phosphorus-loss-from-agricultural-soils/
- Prasad, R., and **D. Chakraborty**. 2022. Phosphorus basics: testing soil phosphorus for agronomic and environmental purposes. ANR-2866 https://www.aces.edu/blog/topics/crop-production/phosphorus-basics-testing-soil-phosphorus-for-agronomic-and-environmental-purposes/
- **Chakraborty, D**., and R. Prasad. 2021. Phosphorus basics: Phosphorus stratification: agronomic and environmnetal consequences. ANR-2830 https://www.aces.edu/blog/topics/crop-production/phosphorus-stratification-agronomic-environmental-consequences/
- **Chakraborty, D**., and R. Prasad. 2021. Phosphorus management: determining soil phosphorus storage capacity for Alabama Piedmont soils. ANR-2815. https://www.aces.edu/blog/topics/crop-production/phosphorus-management-soil-phosphorus-storage-capacity-for-alabama-piedmont-soils/
- **Chakraborty, D**., and R. Prasad. 2021. Phosphorus management: indices to measure environmental phosphorus loss risk from soils. ANR- 2740. https://www.aces.edu/blog/topics/crop-production/phosphorus-management-indices-to-measure-environmental-phosphorus-loss-risk-from-soils/
- **Chakraborty, D**., and R. Prasad. 2021. Phosphorus management: use of soil phosphorus storage capacity. ANR- 2739. https://www.aces.edu/blog/topics/crop-production/phosphorus-management-use-of-soil-phosphorus-storage-capacity/
- **Chakraborty, D**., R. Prasad, and E. Brantley. 2020. Phosphorus basics: understanding pathways of soil phosphorus loss. ANR-2662 https://www.aces.edu/wp-content/uploads/2020/05/ANR-2662-Phosphorus-Basics-Pathways-of-Soil-Phosphorus-Loss_052020L-G.pdf

- **Chakraborty, D**., and R. Prasad. 2019. Phosphorus basics: deficiency symptoms, sufficiency ranges and common sources. ANR-2588 https://www.aces.edu/blog/topics/crop-production/phosphorus-basics-deficiency-symptoms-sufficiency-ranges-and-common-sources/
- Prasad, R., and **D. Chakraborty**. 2019. Phosphorus basics: understanding phosphorus forms and their cycling in the soil. ANR-2535 https://www.aces.edu/wp-content/uploads/2019/04/ANR-2535-Phosphorus-Basics_041719L.pdf
- **Chakraborty, D**., V.D. Nair, W.G. Harris and R.D. Rhue. 2011. The potential for plants to remove phosphorus from the spodic horizon. SL 359/SS560 http://edis.ifas.ufl.edu/ss560.
- Nair, V.D., W.G. Harris, and **D. Chakraborty**. 2010. Indicator for risk of phosphorus loss from sandy soils. SL 333/SS539. http://edis.ifas.ufl.edu/ss539.
- Nair, V.D., W.G. Harris, **D. Chakraborty**, and M. Chrysostome. 2010. Understanding soil phosphorus storage capacity. SL 336/SS541. http://edis.ifas.ufl.edu/ss541.

**Research Grants:**

- Effect of litter stockpilling time period on the nutrient content of litter. Alabama Cotton Comission, 2023 (2023-2024). Grant Amount: $16,800. **Awarded. (Co-PI: Debolina Chakraborty).**
- Does phosphorus stratification penalize crop yield? Alabama Soybean Producers, 2023 (2023-2024). Grant Amount $15,200. **Awarded. (Co-PI: Debolina Chakraborty).**
- Does phosphorus stratification penalizer crop yield? Alabama Wheat and Feed Grain Committee Project, 2023 (2023-2024). Grant Amount $16652. **Awarded. (Co-PI: Debolina Chakraborty).**
- A decision support tool for phosphorus application in cotton fields that have a “high” soil test phosphorus rating. Alabama Cotton Commission, 2021. (2021-2023). Grant Amount: $18,000. **Awarded. (Co-PI: Debolina Chakraborty).**
- A decision support tool for phosphorus application in soybean fields that have a “high” soil test phosphorus rating. Alabama Soybean Producers, 2021. (2021-2023). Grant Amount: $10,500. Awarded. **(Co-PI: Debolina Chakraborty).**
- Does phosphorus stratification penalize crop yield. Alabama Cotton Commission, 2021. (2021). Grant Amount: $6,800. Awarded. **(Co-PI: Debolina Chakraborty).**
- A decision support tool for phosphorus application in corn fields that have a “high” soil test phosphorus rating. Alabama Wheat and Feed Grain Committee Project, 2021. (2021). Grant Amount: $21,000. **Awarded. (Co-PI: Debolina Chakraborty).**
- Does phosphorus stratification penalize crop yield. Alabama Wheat and Feed Grain Committee Project, 2021. (2021). Grant Amount: $13,623. Awarded. **(Co-PI: Debolina Chakraborty).**
- Interdisciplinary training in agroecology: enhancing a broader training in agricultural science through traditional and web based curricula, USDA National Needs Fellowship, (2013-2015), Grant Amount: **$246,000. Awarded (Co-PI: Debolina Chakraborty).**
- Strengthening US graduate education in agricultural sciences through international research focused on managing water scarcity in diverse agroecosystems, 2015-2019,

USDA National Needs Fellowship, (2015-2019), Grant Amount: **$262,453. Awarded (Co-PI: Debolina Chakraborty).**

**Presentations:**

- **Chakraborty, D.** 2023. Sustainable phosphorus management in agricultural systems. Invited Lecture in ICAR-IARI, New Delhi, India.
- **Chakraborty, D.,** R. Prasad, D.B. Watts, and H.A. Torbert. 2023. Effectiveness of flue gas desulfurization gypsum used as a litter amendment to reduce environmental phosphorus loss risk. ASA-CSSA-SSSA International meeting, St Louis, MO.
- Poudel, S., **D. Chakraborty**, H. Feng, D.B. Watts, and R. Prasad. 2023. Evaluation of amendments to reduce ammonia emissions from poultry litter. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO.
- Koneti, S., R. Prasad, and **D. Chakraborty**. 2023. Assessing ammonia and greenhouse gas emissions in poultry manure stockpiled under open and covered conditions. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO.
- Bhatta, A., R. Prasad, **D. Chakraborty**, D. Watts, and H. A. Torbert. 2023. Spatial and seasonal variation in phosphorus losses at field-scale: relation to Alabama phosphorus index. 2023 ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO.
- Bhatta, A., R. Prasad, **D. Chakraborty**. 2023. Phosphorus loss at field scale: insights for enhancing the Alabama phosphorus index. Alabama Water Resource Conference. Orange Beach, AL.
- Raj, C., **D. Chakraborty,** R. Prasad, D. Watts, T. Horvath, B. Chaves-Cordoba. 2023. Poultry litter's impact on water quality under one acre-inch rainfall. Annual Graduate Poster Showcase, College of Agriculture, Auburn University, AL.
- Raj, C., **D. Chakraborty,** R. Prasad, D. Watts, T. Horvath, B. Chaves-Cordoba. 2023. Does manure type and their application rate affect sediment and nutrient losses in a Conventional Tillage System? Alabama Water Resource Conference, Orange Beach, AL.
- Raj, C., **D. Chakraborty,** R. Prasad, D. Watts, T. Horvath, B. Chaves-Cordoba. 2023. How two manure types and four application rates affect nutrients, sediments, and water loss in conventionally tilled soils? Auburn University Student Research Symposium, Auburn, AL.
- **Chakraborty, D.,** R. Prasad, D.B. Watts, and H.A. Torbert. 2023. Potential of flue gas desulfurization gypsum used as a litter amendment in broiler house to mitigate phosphorus loading during runoff events. Alabama Water Resources Conference, Orange Beach, AL.
- **Chakraborty, D.,** R. Prasad, D.B. Watts, and H.A. Torbert. 2022. Can environmental phosphorus loss be reduced using gypsum treated poultry litter? Poster presentation at the annual ASA-CSSA- SSSA International meeting, Baltimore, MD.
- Feng, H., R. Prasad, and **D. Chakraborty.** 2022. Does broiler litter age and application rate affect nutrients mineralization? Poster presentation at the annual ASA-CSSA- SSSA International meeting, Baltimore, MD.
- Sidhu, N.S., R. Prasad, **D. Chakraborty,** D. Watts. 2022. Evaluating the Effect of Phosphorus Stratification on Corn and Soybean Yield. ASA-CSSA-SSSA International Annual Meeting. Baltimore, MD.

- Bhatta, A., R. Prasad, **D. Chakraborty**, D. Watts, and A. Torbert. 2022. Evaluation of Alabama phosphorus index using runoff data from edge of field monitoring experiments. ASA-CSSA-SSSA International Annual Meeting. Baltimore, MD.
- Powell, A., R. Prasad, D. Watts, **D. Chakraborty,** and A. Torbert. 2022. Effects of Flue Gas Desulfurization Gypsum-Amended Poultry Litter on Nutrient Release and Crop Yield. ASA-CSSA-SSSA International Annual Meeting. Baltimore, MD.
- Powell, A., R. Prasad, D. Watts, **D. Chakraborty,** and A. Torbert. 2022. Effects of Flue Gas Desulfurization Gypsum-Amended Poultry Litter on Nutrient Release and Water Quality. ASA-CSSA-SSSA International Annual Meeting. Baltimore, MD.
- Bhatta, A., R. Prasad, **D. Chakraborty**. 2022. Evaluation of Alabama phosphorus index using runoff data from edge of field monitoring experiments. College of Agriculture (COA) Graduate Student Research Poster Showcase. Auburn, AL.
- Powell, A., R. Prasad, D. Watts, **D. Chakraborty,** and A. Torbert. 2022. Effects of Poultry Litter with Flue Gas Desulfurization Gypsum Bedding on Nutrient Release and Water Quality. College of Agriculture (COA) Graduate Student Research Poster Showcase. Auburn, AL.
- Raj, C., R. Prasad, **D. Chakraborty,** D. Watts, T. Horvath. 2022. Nutrients, Sediments, and Water Losses from One-inch Rainfall Simulation in Conventionally Tilled Soils Receiving Two Manure Types and Four Application Rates. College of Agriculture (COA) Graduate Student Research Poster Showcase. Auburn, AL.
- Sidhu, N.S., R. Prasad, **D. Chakraborty.** 2022. Effect of Phosphorus Stratification on Corn Yield in Alabama Soil region. College of Agriculture (COA) Graduate Student Research Poster Showcase. Auburn, AL.
- Powell, A., R. Prasad, D. Watts, **D. Chakraborty**, and A. Torbert. 2022. Effects of poultry litter with flue gas desulfurization gypsum bedding on nutrient release and water quality. Alabama water resources conference. Orange Beach, Alabama.
- **Chakraborty, D.,** and R. Prasad. 2022. Phosphorus solubility in traditional versus gypsum treated poultry litter and its environmental implications. Poster presentation at Alabama water Resources Conference.
- **Chakraborty, D.,** and R. Prasad. 2022. Phosphorus retention and release from soils impacted with poultry litter. Poster presentation at world soil congress, Glasgow, UK.
- Prasad, R., and **D. Chakraborty**. 2022. Stratification of phosphorus forms and its implication in soils with repeated poultry litter applications. Poster presentation at world soil congress, Glasgow, UK.
- **Chakraborty, D.,** and R. Prasad. 2021. Phosphorus stratification and environmental implication for soils with repeated poultry litter application. Poster presentation at Alabama water Resources Conference.
- Bhatta, A., R. Prasad, and **D. Chakraborty,** D. Watts, and A. Torbert. 2021. Phosphorus loss in runoff from soils with different soil test phosphorus ratings. Poster presentation at Alabama water Resources Conference.
- G. Kaur, **D. Chakraborty**, and R. Prasad. 2021. Understanding the distribution of phosphorus pools in five Alabama soil region. Poster presentation at Alabama water Resources Conference.
- **Chakraborty, D**., and R. Prasad. 2021. Extraction efficiency of inorganic and organic extractants to solubilize phosphorus from poultry litter. Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.

- **Chakraborty, D**., and R. Prasad. 2021. Phosphorus retention and release from soils receiving repeated poultry litter applications. Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.
- Prasad, R., and **D. Chakraborty**. 2021. Stratification of phosphorus forms and its environmental implication in soils impacted with poultry litter. Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.
- Bhatta, A., R. Prasad, **D. Chakraborty**, D.B. Watts, and H.A. Torbert. Determination of phosphorus loss in runoff from soils with different soil test phosphorus ratings. (Abstract submitted). Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.
- G. Kaur., **D. Chakraborty**, and R. Prasad. 2021. Evaluating the changes in phosphorus pools with soil depth in five Alabama soil regions. (Abstract submitted). Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.
- N.S. Sidhu., **D. Chakraborty**, and R. Prasad. 2021. Understanding variation in phosphorus pools with time in Alabama soil regions. (Abstract submitted). Poster presentation at the annual ASA-CSSA- SSSA International meeting, Salt Lake City, UT.
- **Chakraborty, D**., and R. Prasad. 2020. Phosphorus availability and loss from poultry litter impacted Alabama soils. Poster presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- **Chakraborty, D**., and R. Prasad. 2020. Evaluating phosphorus sorption capacity of poultry litter impacted soils. Poster presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- G. Kaur, **D. Chakraborty**, and R. Prasad. 2020. Understanding the distribution of phosphorus (P) in various P-pools for environmental P loss risk assessment. Poster presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- **Chakraborty, D**., and R. Prasad. 2020. New tools to identify phosphorus hotspots and predict phosphorus loss risk from manure impacted soils. National Association of County Agricultural Agents.
- Dey, P., R. Prasad, and **D. Chakraborty**. 2020. Understanding the phosphorus and nutrients release characteristics of poultry litter using acidic and basic extractants. Oral presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- Dey, P., R. Prasad, and **D. Chakraborty**. 2020. Phosphorus (P) characterization in poultry litter of various ages by sequential P fractionation. Poster presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- Bhatta, A., R. Prasad, and **D. Chakraborty.** 2020. Comparison of extraction efficacy of common extractants for environmental phosphorus loss risk assessment for five major Alabama soils. Oral presentation at the annual ASA-CSSA-SSSA International meeting; Virtual. CD Rom Publication.
- Dey, P., R. Prasad, **D. Chakraborty**, B. Higgins, A. Gamble, and Y. Feng. 2020. Comparison of phosphorus release characteristics in poultry litter using selective acidic and basic extractants. Poster presentation at Auburn Research Student Symposium.
- **Chakraborty, D**., and R. Prasad. 2019. Phosphorus release characteristics of poultry litter impacted soils of Lake Wedowee watershed. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.

- **Chakraborty, D**., R. Prasad, and J. Clarke. 2019. Changes in soil phosphorus fractions due to cover crop rotation with row crops. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- Prasad, R., **D. Chakraborty**, and A. Bhatta. 2019. Understanding the phosphorus loss risk from P-hotspots in Alabama soil. Oral presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- Dey, P., **D. Chakraborty**, R. Prasad, A. Gamble, Y. Feng, and B. Higgins. 2019. Characterization of phosphorus in poultry litter and determination of P extraction efficiency of extractants. Oral presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- Bhatta, A., **D. Chakraborty**, R. Prasad. 2019. Efficacy of commonly used extractants for evaluating P retention capacity for Alabama soils. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- Bhatta, A., R. Prasad, **D. Chakraborty**, J. Shaw, E. Brantley, and J. Lamba. 2019. Phosphorus characterization of Alabama soils under different management practices for environmental risk assessment. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- Dey, P., R. Prasad, **D. Chakraborty**, A. Gamble, Y. Feng, and B. Higgins. 2019. Phosphorus characterization in poultry litter of various ages and composition. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- **Chakraborty, D**., and R. Prasad. 2019. Understanding the phosphorus retention capacity and phosphorus forms in poultry litter impacted soils of Lake Wedowee watershed in Alabama. Poster presentation at Alabama Water Resources Symposium and Conference.
- Bhatta, A., R. Prasad, **D. Chakraborty**, J. Shaw, E. Brantley, and J. Lamba. 2019. Phosphorus characterization of Alabama soils under different management practices. Poster presentation at Alabama Water Resources Symposium and Conference.
- Prasad, R., and **D. Chakraborty**. 2019. Quantitative approach to identify phosphorus hotspots and predict phosphorus loss risk in poultry litter impacted soils of Lake Wedowee Watershed in Alabama. Poster presentation at Southern Association of Agricultural Scientists (SAAS) Annual Meeting and Conference, Birmingham, AL.
- Bhatta, A., R. Prasad, **D. Chakraborty**, J. N. Shaw, E. Brantley, and J. Lamba. 2019. Phosphorus characterization of Alabama soils under different management practices for environmental risk assessment. Southern Association of Agricultural Scientists (SAAS) Annual Meeting and Conference, Birmingham, AL.
- Nair, V.D., B. Dari, **D. Chakraborty,** and W.G. Harris. 2015. Correspondence of the phosphorus saturation ratio threshold with environmental indicators of phosphorus loss risk. ASA-CSSA-SSSA International meeting; Minneapolis, MN.
- Rowland, D.L., **D. Chakraborty,** J.M. Bennett, G. Hochmuth, W. Wood, H. Enloe, O. Mbuya, J. Dubeux, K. Racette, T. Eluri, P. Kettlewell, M. Lira, N. Randall, A. Wezel and D. Ramirez. 2015. Expanding disciplinary and international research training in global agroecosystems. ASA-CSSA-SSSA International meeting; Minneapolis, MN.
- Nair, V.D., W.G. Harris, M. Chrysostome, **D. Chakraborty,** and M.W. Clark. 2014. Challenges in assessment of legacy phosphorus. Oral presentation at the annual ASA-CSSA-SSSA International meeting; Long Beach, CA.

- **Chakraborty, D**., D. Rowland, J. Bennett, and G. Hochmuth. 2013. Agroecology: a concentration of courses for a M.S. degree at the University of Florida. Poster presentation at ASA Southern branch.
- **Chakraborty, D**., D. Rowland, J. Bennett, and G. Hochmuth. 2013. Agroecology: a concentration of courses through distance education for a M.S. degree at the University of Florida. Poster presentation at CALS Teaching Symposium.
- **Chakraborty, D**., V.D. Nair, and T.Z. Osborne. 2012. Phosphorus dynamics in the Kissimmee River sediment and floodplain soils. Graduate Student poster competition at the University of Florida Water Institute Symposium.
- **Chakraborty, D**., V.D. Nair, T.Z. Osborne, and L.R. Ellis. 2012. Phosphorus retention and release from the Kissimmee River sediment and floodplain soils. Poster presentation at the 9th Intecol International Wetlands Conference.
- **Chakraborty, D**., and V.D. Nair. 2011. Quantitative approach for assessment of phosphorus loss risk from Alaquod and Paleudult soil profiles. Oral presentation at the 12th Annual Soil and Water Science Research Forum.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2011. Phosphorus loss from illuvial horizons of coastal plain soils. Poster presentation at the annual ASA-CSSA-SSSA International meeting; San Antonio, TX. CD Rom Publication.
- **Chakraborty, D**., V.D. Nair, W.G. Harris, and R.D. Rhue. 2010. Tool to evaluate soil phosphorus release and potential effect on water quality. Graduate Student poster competition at the University of Florida Water Institute Symposium.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2010. Phosphorus retention and release from Bh and Bt horizons of manure-impacted soils in Florida. Poster presentation at the 11th Annual Soil and Water Science Research Forum.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2010. Compositional differences affecting phosphorus dynamics in Bh and Bt horizons. Oral presentation at the annual ASA-CSSA-SSSA International meeting; Long Beach, CA. CD Rom Publication.
- **Chakraborty, D**., and V.D. Nair. 2009. Phosphorus release from spodic horizons for plant uptake. Presentation at the 11th Annual University of Florida Environmental Engineering Sciences Poster Symposium.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2009. Differences in metal extractability between Bh and Bt horizons: implications for environmental assessments. Poster presentation at the 10th Annual Soil and Water Science Research Forum.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2009. Efficacy of commonly used extractants for determining P retention capacity in Florida Soils. Graduate Student poster competition at the annual ASA-CSSA- SSSA International meeting; Pittsburg, PA. CD Rom Publication.
- **Chakraborty, D**., and V.D. Nair. 2008. Phosphorus release from fertilizer-impacted spodic horizons of Spodosols in South Florida. Poster presentation at the 9th Annual Soil and Water Science Research Forum.
- **Chakraborty, D**., V.D. Nair, and W.G. Harris. 2008. Phosphorus storage within soil profiles of P-impacted Aquods. Poster presentation at the annual ASA-CSSA-SSSA International meeting; Houston, TX. CD Rom Publication.

**Laboratory Instrument Skills:**

- Segmented flow analyzer (Seal Analytical; AA500)

- Flow injection analyzer (FIA lab)
- Atomic absorption spectrometer
- X-ray diffractometer
- pH/EC meter
- Microwave digester (MARS 6)
- UV-Vis spectrophotometer (Shimadzu)
- Total organic carbon analyzer (Shimadzu)
- KjelDigester (Buchi K-446)
- KjelMaster (Buchi K-375/K-376)
- Inductively coupled plasma-optical emission spectrometer (Agilent ICP-OES 5800)
- Gas chromatograph (Shimadzu Nexis GC-2030)

**Journal Reviewer:**

- Applied Bioenergy
- Agricultural and Environmental Letters
- Environmental Science: Processes & Impacts
- Environmental Science and Pollution Research
- Geoderma Regional
- Plos One

**Professional Affiliations:**

- American Society of Agronomy.
- Crop Science Society of America.
- Soil Science Society of America.
- Honor Society of Agriculture Gamma Sigma Delta.
- Association of Agricultural Scientists of Indian Origin

**Graduate student mentorship:**

- Chhabi Raj (MS) (Since 2022), Auburn University
- Sabina Poudel (MS) (Since 2022), Auburn University
- Shruthi Koneti (MS) (Since 2023), Auburn University