Sushant Singh, Ph.D.

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AREAS OF RESEARCH INTEREST

Artificial Intelligence (AI) and Sustainability | AI and SDGs| AI and Water Resources Management| AI and Natural Hazards Management | AI and Rural Development | AI and Data Governance and Privacy

CURRENT POSITION

2021 - present The Chief Executive Officer and the Founding Director, The Center for Artificial Intelligence and Environmental Sustainability (CAIES) Foundation, Patna, Bihar, India

HONORARY POSITIONS

2025 - present Board of Directors, Florida Institute of Sustainability, Florida, USA

2023 - present Associate Editor of Frontiers in Environmental Science: Environmental Informatics and Remote Sensing

2020 - present Member of the Board of Studies, School of Informatics, Digital University Kerala, India

2020 - present Visiting Senior Research Fellow, Indian Institute of Sustainable Development, New Delhi, India

EDUCATION

Ph.D. Department of Earth and Environmental Studies, Montclair State University, NJ, USA, 2015
Dissertation: *Assessing and mapping vulnerability and risk perceptions to groundwater arsenic contamination: Towards developing sustainable arsenic mitigation models*

Ph.D. Department of Environment and Water Management, Magadh University, Bihar, India, 2010
Dissertation: *Study of arsenic contamination in the food chain- transfer of arsenic into food materials through groundwater irrigation*

M.S. Department of Environmental Science, Magadh University, Bihar, India, 2003
Dissertation: *Performance evaluation of different methods of composting*

B.S. Department of Botany, Bhupendra Narayan Mandal University, Bihar, India, 1997

PUBLICATIONS

Edited Volumes

2020 Fares, A. and **Singh, S.K.** *Arsenic Water Resources Contamination - Challenges and Solutions*. Springer International Publishing, Springer Nature Switzerland AG. DOI: https://doi.org/10.1007/978-3-030-21258-2.

Books

2025 *Democracy in Action: Empowering Bihar Through Questions*. DeepScience, India. ISBN-13: 978-81-983916-4-3; ISBN-13: 978-81-983916-6-7; DOI: https://doi.org/10.70593/978-81-983916-4-3.

2023 *A Scientist: Journey of a Village Boy of Bihar, Bharat (India)*. Clever Fox Publishing, India. ISBN-10 : 9356483418; ISBN-13: 978-9356483415.

2011 *Arsenic Contamination in Water, Soil, and Food Materials in Bihar*. Lambert Academic Publishing, Germany. ISBN 978-3-8443-2099-2.

2003 *Environment in Everyday Life*. Sustainable Development Forum, Institution of Engineers, India.

Refereed Journal Articles

2025 Singh, S.K. From 'Sexiest Job' to 'Most Responsible Role': The Evolution of Data Scientists. *Asian Journal of Research in Computer Science, 18(1), 16-25.* DOI: https://doi.org/10.9734/ajrcos/2025/v18i1544.

2023 Prasad, P., **Singh, S.K.**, Ghosh, S., Dutta, S., Sinha, D. Influence of Differential Arsenic Exposure on Cellular Redox Homeostasis of Exposed Rural Women of West Bengal. *Environmental Science and Pollution Research, 30(3), 7836-7850.* DOI: https://doi.org/10.1007/s11356-022-22657-x. IF: 5.8.

2023 Singh, P., Sur, U., Rai, P. K., and **Singh, S.K.** Landslide susceptibility prediction using frequency ratio model: a case study of Uttarakhand, Himalaya (India). *Proceedings of the Indian National Science Academy*, *89, 600–612.* DOI: https://doi.org/10.1007/s43538-023-00171-z. IF: 0.9.

2022 **Singh, S.K.** Genotoxic Effects of Arsenic in Food-Crops: A Need for Transgenerational Studies. *Journal of Clinical & Biomedical Research, 4(4), 1-5.* DOI: https://doi.org/10.47363/JCBR/2022(4)151. IF: 1.5.

2022 Ghasemian, B., Shahabi, H., Shirzadi, A., Al-Ansari, N., Jaafari, A., Geertsema, M., Melesse, A., **Singh, S.K.** and Ahmad, A., Application of Novel Hybrid Machine Learning Algorithm in Shallow Landslide Susceptibility Mapping in a Mountain Area. *Frontiers in Environmental Science*, *10, 1-14*. DOI: https://doi.org/10.3389/fenvs.2022.897254. IF: 4.6.

2022 Shirzadi, A., Shahabi, H., Nabiollahi, K., Taghizadeh-Mehrjardi, R., Lizaga, I., Clague, J.J., **Singh, S.K.**, Golmohamadi, F. and Ahmad, A., 2022. Towards Robust Smart Data-Driven Soil Erodibility Index Prediction under Different Scenarios. *Geocarto International*, 1-34. DOI: https://doi.org/10.1080/10106049.2022.2076918. IF: 3.8.

2022 **Singh, S. K.,** Taylor, R. W., Pradhan, B., Shirzadi, A., and Pham, B.T. Predicting sustainable arsenic mitigation using machine learning techniques. *Ecotoxicology and Environmental Safety,* 232, 1-12. DOI: https://doi.org/10.1016/j.ecoenv.2022.113271. IF: 6.8.

2022 **Singh, S. K.,** Taylor, R. W., & Thadaboina, V. Evaluating and predicting social behavior of arsenic affected communities: Towards developing arsenic resilient society. *Emerging Contaminants*, 8, 1-8. DOI: https://doi.org/10.1016/j.emcon.2021.12.001. IF: 6.

2020 Pham, B.T., Phong, T.V., Avand, M.D., Al-Ansari, N. Singh, S.K., Le, H.V., and Prakash, I. Improving Voting Feature Intervals for Spatial Prediction of Landslides. *Mathematical Problems in Engineering,* 2020, 1-15. DOI: https://doi.org/10.1155/2020/4310791. CS: 2.6.

2020 Nhu, V.H., Zandi, D., Shahabi, H., Chapi, K., Shirzadi, A., Al-Ansari, N., **Singh, S.K.,** Dou, J., Nguyen, H. Comparison of Support Vector Machine, Bayesian Logistic Regression, and Alternating Decision Tree Algorithms for Shallow Landslide Susceptibility Mapping along a Mountainous Road in the West of Iran. *Applied Sciences,* 10(15), 5047. DOI: https://doi.org/10.3390/app10155047. IF: 2.7.

2020 Pham, B.T., Phong, T.V., Thoia, T.N., Trinh, P.T., Tran, T.C., Ho, L.S., **Singh, S.K.**, Duyen, T.T.H., Nguyen, L.T., Le, H.Q., Le, H.P., Han, N.T.B., Quoc, N.K., Prakash, I. GIS-Based Ensemble Soft Computing Models for Landslide Susceptibility Mapping. *Advances in Space Research*, 66(6), 1303-1320. DOI: https://doi.org/10.1016/j.asr.2020.05.016. IF: 2.6.

2020 **Singh, S.K.** COVID-19: A Masterstroke of Nature. *AIMS Public Health, 2020, 7(2): 393-402.* DOI: https://doi.org/10.3934/publichealth.2020033. IF: 3.3.

2020 **Singh, S.K.** Global decision support dashboard of COVID-19. *AIMS Medical Science*, 7(2): 40-42. DOI: https://doi.org/15625/0866-7187/0/0/15008. IF: 0.7.

2020 **Singh, S.K.** A Commentary on the Application of Artificial Intelligence in the Insurance Industry. *Trends in Artificial Intelligence*, 4(1):75-79. DOI: https://doi.org/10.36959/643/305. IF: NA.

2020 Pham, B.T., **Singh, S.K.** and Ly, H.B. Using Artificial Neural Network (ANN) for prediction of soil coefficient of consolidation. *Vietnam Journal of Earth Sciences*, 42(4), 311-319. DOI: https://doi.org/10.15625/0866-7187/0/0/15008. IF: 1.87.

2020 Pham, B.T., Phong, T.V., Nguyen-Thoi, T., Parial, K., **Singh, S.K.**, Ly, H.B., Nguyen, K.T., Ho, L.S., Le, H.V. and Prakash, I. Ensemble modeling of landslide susceptibility using random subspace learner and different decision tree classifiers. *Geocarto International*, 37(3), 735-757. DOI: https://doi.org/10.1080/10106049.2020.1737972. IF: 3.8.

2020 Nhu, V.H., Shirzadi, A., Shahabi, H., **Singh, S.K.**, Al-Ansari, N., Clague, J.J., Jaafari, A., Chen, W., Miraki, S., Dou, J. and Luu, C., 2020. Shallow Landslide Susceptibility Mapping: A Comparison between Logistic Model Tree, Logistic Regression, Naïve Bayes Tree, Artificial Neural Network, and Support Vector Machine Algorithms. *International Journal of Environmental Research and Public Health*, 17(8), p.2749. DOI: https://doi.org/10.3390/ijerph17082749. IF: 4.614.

2020 Bui, D.T., Shirzadi, A., Amini, A., Shahabi, H., Al-Ansari, N., Hamidi, S., **Singh, S.K.**, Thai Pham, B., Ahmad, B.B. and Ghazvinei, P.T., 2020. A Hybrid Intelligence Approach to Enhance the Prediction Accuracy of Local Scour Depth at Complex Bridge Piers. *Sustainability*, *12*(3), p.1063. DOI: https://doi.org/10.3390/su12031063. IF: 3.9.

2019 Pham, B.T.; Shirzadi, A.; Shahabi, H.; Omidvar, E.; **Singh, S.K.**; Sahana, M.; Asl, D.T.; Ahmad, B.B.; Quoc, N.K.; Lee, S. Landslide Susceptibility Assessment by Novel Hybrid Machine Learning Algorithms. *Sustainability, 11(16), 4386*. DOI: https://doi.org/10.3390/su11164386. IF: 3.9.

2019 Phong, T.V., Phan, T.T., Prakash, I., **Singh, S.K.**, Shirzadi, A., Chapi, K., Ly, H.B., Ho, L.S., Quoc, N.K. and Pham, B.T. Landslide susceptibility modeling using different artificial intelligence methods: a case study at Muong Lay district, Vietnam. *Geocarto International, 36(15), 1685-1708*. DOI: https://doi.org/10.1080/10106049.2019.1665715. IF: 3.8.

2019 **Singh, S.K.** and Taylor, W. Assessing the role of risk perception in ensuring sustainable arsenic Mitigation. *Groundwater for Sustainable Development, 9, 1-14*. DOI: https://doi.org/10.1016/j.gsd.2019.100241. IF: 5.9.

2019 Jaafari, A., Pham, B.T., Prakash, I., **Singh**, **S.K.**, Bui, D.T. Hybrid computational intelligence models for groundwater potential mapping. *Catena, 182,1-13*. DOI: https://doi.org/10.1016/j.catena.2019.104101. IF: 6.2.

2019 A career in environmental informatics and environmental data science. *Frontiers in Ecology and the Environment.* 17 (4): 240-241. DOI: https://doi.org/10.1002/fee.2038. IF: 10.3.

2019 Pham B.T., Prakash I., **Singh S.K.**, Shirzadi A., Shahabi H., Bui D.T. Landslide susceptibility modeling using Reduced Error Pruning Trees and different ensemble techniques: Hybrid machine learning approaches. *Catena*, 175, 203-18. DOI: https://doi.org/10.1016/j.catena.2018.12.018. IF: 6.2.

2019 Pham B.T., Prakash I., Dou J, **Singh S.K.**, Trinh P.T., Trung T.H., Minh L.T., Tran V.P., Kim K. D., Shirzadi A., Tien B.D. A novel hybrid approach of landslide susceptibility modeling using rotation forest ensemble and different base classifiers. *Geocarto International*, 35(12), 1267-1292. DOI: https://doi.org/10.1080/10106049.2018.1559885. IF: 3.8.

2018 **Singh, S.K.**, Taylor, R.W., Rahman, M.M. and Pradhan, B. Developing robust arsenic awareness prediction models using machine learning algorithms. *Journal of Environmental Management. 211C: 125-137*. DOI: https://doi.org/10.1016/j.jenvman.2018.01.044. IF: 8.7.

2018 Chakraborti, D., **Singh, S.K.**, Rahman, M.M., Dutta, R.N., Mukherjee, S.C., Pati, S.K, and Probir, B. Groundwater Arsenic Contamination in the Ganga River Basin: A Future Health Danger. *International Journal of Environmental Research and Public Health*, 15(2): 180. DOI: https://doi.org/10.3390/ijerph15020180. IF: 4.614.

2017 An Analysis of the Cost-Effectiveness of Arsenic Mitigation Technologies: Implications for Public Policy. *International Journal of Sustainable Built Environment*, 6(2): 522-535. DOI: https://doi.org/10.1016/j.ijsbe.2017.10.004. IF: NA.

2017 **Singh, S.K.,** Taylor, R.W., and Su, H. Developing Sustainable Models of Arsenic-Mitigation Technologies in the Middle-Ganga Plain in India. *Current Science. 113(1): 80-93.* DOI: https://doi.org/10.18520/cs/v113/i01/80-93. IF: 1.102.

2017 Conceptual Framework of a Cloud-based Decision Support System for Arsenic Health Risk Assessment. *Environment Systems and Decisions*. 37(4): 435-450. DOI: https://doi.org/10.1007/s10669-017-9641-x.

2017 Evaluating Two Open Source Geocoding Tools for Geographical Inconsistencies of Geocoding Errors. *Open Geospatial Data, Software and Standards*, 2(1), 1-8. DOI: https://doi.org/10.1186/s40965-017-0026-3.

2017 **Singh, S.K.** and Stern, E.A. Global Arsenic Contamination: Living with the Poison Nectar. *Environment: Science and Policy for Sustainable Development, 59*(2): 24-28. DOI: https://doi.org/10.1080/00139157.2017.1274583. IF: 4.108.

2016 Geospatial analysis of census data for targeting new businesses using Geoeconomics. *Journal of Intelligence Studies in Business.* 6(3): 5-12. IF: 0.29.

2015 Siegel, Peter E., John G. Jones, Deborah M. Pearsall, Nicholas P. Dunning, Pat Farrell, Neil A. Duncan, Jason H. Curtis, and **Singh, S.K.** Paleoenvironmental Evidence for First Human Colonization of the Eastern Caribbean. *Quaternary Science Reviews*, 129 (Dec 1): 275-295. DOI: https://doi.org/10.1016/j.quascirev.2015.10.014. IF: 4.456.

2015 **Singh, S.K.** and Vedwan, N. Mapping Composite Vulnerability to Groundwater Arsenic Contamination: An Analytical Framework and a Case Study in India. *Natural Hazards*, 75(2): 1883-1908. DOI: https://doi.org/10.1007/s11069-014-1402-2. IF: 3.158.

2014 Groundwater Arsenic Contamination in the Middle-Gangetic Plain, Bihar (India): The Danger Arrived. *International Research Journal of Environmental Sciences,* 4(2): 70-76.

2014 **Singh, S.K.,** Gin D. Sanchez, and Panigrahi, S.K. Multiple Groundwater Contamination in the Mid-Gangetic Plain, Bihar (India): A Potential Threat. *International Journal of Advanced Research in Science and Technology,* 3(3): 175-179.

2014 **Singh, S.K.,** Feldman, C., & Wunderlich, S. Heavy Metal Contamination in Vegetables Grown in an Urban Community Garden in the Northeast USA: A Preliminary Study. *Food Studies: An Interdisciplinary Journal*, 3(3): 77-87. DOI: https://doi.org/10.18848/2160-1933/CGP/v03i03/40582.

2014 **Singh, S.K,** Feldman, C., & Wunderlich, S. Disaster Issues and Management in Farm and Urban Crop Production. *Perspectives in Public Health*, 134(3): 127-128. DOI: https://doi.org/10.1177/1757913914530844. IF: 3.627.

2014 **Singh, S.K.,** Ghosh, A.K., Kumar, A., Kislay, A., Kumar, C., Tiwari, R.R., Parwez, R., Kumar, N., Imam, M.D. Groundwater Arsenic Contamination and Associated Health Risks in Bihar, India. *International Journal of Environmental Research*, 8(1): 49-60. https://doi.org/10.22059/IJER.2014.693. IF: 3.229.

2012 **Singh, S.K.** and Ghosh, A.K. Health Risk Assessment due to Ground Water Arsenic Contamination-Children are at High Risk. *Human and Ecological Risk Assessment: An International Journal*, 18(4): 751-766. DOI: https://doi.org/10.1080/10807039.2012.688700. IF: 4.997.

2011 **Singh, S.K.** and Ghosh, A.K. Entry of Arsenic into Food Material - A Case Study. *World Applied Science Journal*, 13(2): 385-390. IF: 0.6.

2010 **Singh, S.K.** and Ghosh, A.K. Effect of Arsenic on Photosynthesis, Growth, and its Accumulation in the Tissues of *Allium cepa* (Onion). *International Journal of Environmental Engineering and Management*, 1(1): 39-50.

Book Chapters

2021 **Singh, S.K.**, Shirzadi, A., and Pham, B.T. Application of Artificial Intelligence in Predicting Groundwater Contaminants. In Singh, A., Agrawal, M., and Agrawal, S.B. *Water Pollution and Management Practices*. Springer International Publishing, Springer Nature Switzerland AG. DOI: https://doi.org/10.1007/978-981-15-8358-2_4.

2019 **Singh, S.K.** and Taylor, R.W. Assessing and mapping human health risks due to arsenic and socioeconomic correlates for proactive arsenic Mitigation. In A. Fares and Singh, S.K. (eds.), *Advances in Water Security: Arsenic Water Resources Contamination - Challenges and Solutions*. Springer International Publishing, Springer Nature Switzerland AG. DOI: https://doi.org/10.1007/978-3-030-21258-2_10.

2016 **Singh, S.K.**, Brachfeld, S.A., and Taylor, R.W. Evaluating hydrogeological and topographic controls on groundwater arsenic contamination in the mid-Gangetic Plain in India: Towards Developing Sustainable Arsenic Mitigation Models. In A. Fares (ed.), *Advances in Water Security: Emerging Sensing Issues for Coastal Groundwater Quality and Quantity*. Springer International Publishing, New York, USA. DOI: https://doi.org/10.1007/978-3-319-32008-3, 263-287.

2011 **Singh, S.K.** Are Western Values, Ethics, and Dominant Paradigms Compatible with Sustainability? - Issue-3. In *Taking Sides: Clashing Views on Sustainability*. Robert W. Taylor. McGraw-Hill (ed.), ISBN: 0073514500 / 9780073514505.

2009 Ghosh, A.K., Singh, S.K., Bose, N., **Singh, S.K.**, Roy, N.P., Upadhyaya, A. Arsenic Hotspots detected in the state of Bihar (India) a serious health hazard for an estimated human population of 5.5 Lakh. In *Assessment of Ground Water Resources and Management*, Ramanathan, A.L., Bhattacharya, P., Keshari, P.K., Bundschuh, J., Chandrashekharam, D., and Singh, S.K. (Eds.) I. K. International Publishing House Pvt. Ltd., New Delhi, ISBN: 978-81-906757-2-7, 62-70.

Encyclopedia Entries

2017 Chakraborti, D., **Singh, S.K.**, Rashid, H.M., and Rahman, M.M. Arsenic: occurrence in groundwater. *Encyclopedia of Environmental Health. Burlington: Elsevier, 2: 1-17*. DOI: https://doi.org/10.1016/B978-0-12-409548-9.10634-7.

Conference Proceedings

2019 **Singh, S.K.** and Taylor, W. Likelihood of adoption of arsenic-mitigation technologies under perceived risks to health, income, and social discrimination to arsenic contamination. Zhu Y, Guo H, Bhattacharya P, Ahmad A, Bundschuh J, Naidu R. *Environmental Arsenic in a Changing World: Proceedings of the 7th International Congress and Exhibition on Arsenic in the Environment (AS 2018)*, July 1-6, 2018, Beijing, PR China. CRC Press; 2019 Apr 15.

2007 Bose, N., Ghosh, A.K., Roy, N.P., Upadhyay, A., Singh, A., **Singh, S.K.** Vulnerability of Population exposed to Arsenic contamination in the Mid-Ganga Plain of Bihar (India). *Annual Conference of Royal Geographical Society (RGS-IBG – AC-07),* London, U.K, August 28-31.

2007 Ghosh, A. K., S. K. Singh, N. Bose, **Singh, S.K.**, A. Singh, S. Chaudhary, R. Mishra, N. P. Roy, and A. Upadhyay. Study of Arsenic Contamination in Ground Water of Bihar (India) Along the River Ganges. *International Workshop on Arsenic Sourcing and Mobilisation in Holocene Deltas*. K.P. Basu Memorial Hall at Jadavpur University, Kolkata, India, School of Fundamental Research, Kolkata, India. December 12-13.

FELLOWSHIPS, SCHOLARSHIPS & AWARDS

2024 California Artificial Intelligence Institute (CalAI) Scholarship for Certified AI Leader (CAIL) program

2023 Top Researcher for the Contribution and Honorable Achievement in Innovative Research in 3rd Edition of International Design Research Awards by *ScienceFather, India*

2023 Award for Excellence in Research by *Education Expo, Hyderabad, India*

2022 Best Researcher Award for Contribution and Honorable Achievement in Innovative Research by *ScienceFather, India*

2021 Award for Excellence in IT by *Indian Achievers' Forum & CSR Times*

2021 Outstanding Scientist Award by *VDGOOD Professional Association, India*

2020 Inspirational Leadership Award by *Bestow Edutrex International, Mumbai, India*

2020 The Critical Talent of the Year by *Virtusa Corporation*

2020 Top downloaded paper of 2018-2019 in *Frontiers in Ecology and the Environment*

2016 Certificate of Excellence in Reviewing by *Chemosphere Journal*

2013 Student Research and Conference Fund Award, Graduate Student Organization, Montclair State University

2011 Alpha Epsilon Lambda (AEL), National Honor Society for Graduate and Professional Students, Montclair State University

2010 Doctoral Assistantship, Montclair State University (2010-2013)

2009 Award of Honor**,** with Mr. Sundarlal Bahuguna, 4th International Students' Peace Festival, Chandigarh, India

2009 First prize in Calligraphy, Department of Calligraphy, China Academy of Art, Hangzhou, China. Represented India at the Asian Forum for Cross-Cultural Dialogue

2008 Jawaharlal Nehru Fellowship**,** Jawaharlal Nehru Memorial Fund, New Delhi, India (2008-2009)

INVITED TALKS/KEYNOTE SPEAKER

2025 Environmental Data Science: Ensuring Sustainability with AI. The School of Informatics at Digital University Kerala presents the second webinar in the InformEd webinar series in India. Apr 26, 2025.

2025 Sustainability and Artificial Intelligence: The Critical Intersection. The Doctoral Program in Environmental Science & Management and MSU Sustainability Seminar Series, Montclair State University, NJ, USA. Jan 10, 2025.

2025 AI for Material Science at the Materials Research Lab, PG Dept of Physics, A. N. College, Patna, Bihar, India. Jan 11, 2025.

2024 Application of GenAI for Sustainable Nanomaterial Designing for Arsenic Remediation. The International Conference on New Approaches in Material Fabrication for Environmental Clean-up & Impacts on Human Health (ICAMEH-2024), T. P. S. College, Patna, Bihar, India. Oct 18, 2024.

2024 Academic Integrity: Responsible Use of AI and Generative AI in Higher Education. 28 days GURU DAKSHTA 23rd Faculty Induction Programme (FIP), UGC-Malviya Mission Teacher Training Centre (MMTTC) Morabadi Campus, Ranchi University, Ranchi – 834008, Jharkhand, India. Aug 10, 2024.

2023 Environmental Data Science: Opportunities in the Artificial Intelligence Era. Orientation Program of MSc Ecology Students, School of Informatics, Digital University Kerala, India.

2022 Application of Artificial Intelligence in Environmental Management and Sustainability. Annual Tech Fest "PANTHEON": "Technological Advancement in Environmental Mitigation," organized by Birla Institute of Technology, Mesra, Ranchi-835215, Jharkhand, India.

2021 Artificial Intelligence and its Application in Various Domains. GURU DAKSHTA 7th Faculty Induction Programme Organized by the office of the Director UGC- Human Resource Development Centre Morabadi Campus, Ranchi University, Ranchi – 834008 (Jharkhand). Dec 22, 2021.

2021 Achieving the Sustainable Development Goals using Artificial Intelligence as a Keynote speaker in One Day International Webinar on "Growing Impact of Ethical and Trusted Artificial Intelligence/ML in Public Health Care Systems" organized by Anugrah Memorial College, Gaya, Magadh University, Bihar, India. Sept 29, 2021.

2021 Application of artificial intelligence in environmental sustainability, Analytics Conference: Exploring Career in Data Analytics, Moore Statistics Consulting LLC, USA. March 16-18, 2021.

2020 A Machine Learning Approach to Solve Groundwater Arsenic Contamination Challenges. Shyama Prasad Mukherjee University, Ranchi, Jharkhand, India. Sept 9, 2020.

2020 Application of Machine Learning in Environmental Management. A. N. College, Patna, Patliputra University, Bihar, India. Jun 27, 2020.

2019 Application of Artificial Intelligence in Sustainable Arsenic Mitigation. Flame University, Department of Economics. Nov 7, 2019.

2013 Arsenic in the Food Chain and Social Vulnerability in the Eastern State of India. Arsenic Mitigation in Ganges-Brahmaputra Delta. NWO WOTRO Urbanizing Deltas of the World. Patna, India, August 17-18.

2009 Impact of Climate Change and Role of Community in its Mitigation. 'Creating a Healthy Society with a Focus on Climate Change, Health, and Environment,' UNESCO and WHO, Patna, India, November 16-18.

2009 Dying Ganga- Human Beings are the Killers. 'Water Conservation Day' organized by Yuvsatta (NGO), Ministry of Water Resources, Government of India, Chandigarh, India, Sept 27- Oct 1.

2008 Climatic Change Mitigation and Sustainable Development. Indian Youth Summit on Climate Change- Intergenerational Partnerships for Climate Change Mitigation and Adaptation. Visthar, Bangalore, India, April 22-25.

POLICY INPUTS

2009 Core team member: Mid-Day Meal Plan, Government of Bihar, India.

2006 Primary author: Status of Primary Education in Patna Urban-6, Ministry of Human Resource Development, Government of Bihar, India.

2004 Core team member: National Biodiversity Strategy and Action Plan for Bihar, India.

2003 Core team member: State of Environment Report, Bihar, India.

CONFERENCE ACTIVITY

Seminars/Workshops/Symposia Organized

2014 Geogenic Arsenic in The Soils and Aquifers: Causes and Environmental Impacts in the EGU-SSS conference on "The Earth Living Skin: Soil, Life, and Climate Changes." Bari, Italy, September 22–25.

2009 International Seminar on 'Environmental Degradation and Remediation,' Department of Environment and Water Management, Anugrah Narayan College, Patna and Scientific Foresight at Patna, India, Feb 20.

2008 International Conference' Scientific Foresight,' Sri Krishna Memorial Hall, Patna, India, December 22-24.

2007 International conference 'Scientific Foresight,' Department of Science and Technology, Government of Patna, India, December 22-24.

2006 Workshop on 'Bihar Vision-2015 for Socioeconomic Development and Productivity Enhancement,' Bihar State Productivity Council and Indian National Trade Union Congress, Patna, India, Oct 22.

2006 Workshop on 'Investing in Agriculture for Food Security,' Bihar State Productivity Council, Patna, India, Oct 16.

2005 International seminar on 'Cleaner Production Technology (C.P.),' Anugrah Narayan College, Magadh University, Patna, India, Nov 29.

2003 International Conference on 'Urban Waste Management-Present and Future,' Department of Environment and Water Management, Anugrah Narayan College, Magadh University, Patna, India, Dec 15.

Paper Presentation

2025 Establishing Training in Artificial Intelligence for Sustainability Science. 7th International Conference on Science and Technology. Ho Chi Minh City University of Natural Resources And Environment, Department of Science, Technology and External Relations. Vietnam, Nov 14, 2025.

2023 Assessing and predicting groundwater uranium contamination using GIS and machine learning. American Chemical Society Fall 2023. San Francisco, USA, August 13-17, 2023.

2018 Application of Artificial Intelligence in Environmental Modelling and Sustainability. European Congress on Applied Science and Innovative Engineering. Athens, Greece, 12-13 November. DOI: 10.21767/2394-9988-C1-002.

2018 Likelihood of adoption of arsenic-mitigation technologies under perceived risks to health, income, and social discrimination to arsenic contamination, w/ Taylor, R.W. 7th International Congress & Exhibition on Arsenic in the Environment, Environmental Arsenic in a Changing World. Beijing, P. R. China 1-6 July.

2018 Predicting the Most Preferred Sustainable Arsenic Mitigation Technology using Machine Learning Algorithms, w/ Taylor, R.W., and Binh Thai Pham. RGS-IBG Annual International Conference, Cardiff University, U.K., August 28-31.

2015 Sustainable Arsenic Mitigation Framework: A Methodological Approach Towards an Arsenic Resilient Society. "Arsenic Contamination of Groundwater in Middle Ganga Plain of Bihar: Issues, Concerns, and Remedial Measures." Central Ground Water Authority & Central Ground Water Board Mid-Eastern Region, Ministry of Water Resources, R.D. & G.R. Government of India, Patna, Mar 25.

2015 Assessing and Mapping Groundwater Contamination for Creating and Prioritizing Mitigation Policies, w/ Gin D. Sanchez, and Panigrahi, S.K. Association of American Geographers Annual Meeting, Chicago, IL, April 21-25.

2015 Application of Remote Sensing and GIS in Water Resources Management: A Case Study in the Mid-Gangetic Plain in India, w/Ahmad, M.Y. Association of American Geographers Annual Meeting, Chicago, IL, April 21-25.

2014 Application of Risk Perception in Decision-making for Sustainable Arsenic Mitigation. University Student Research Symposium, Montclair State University, NJ, Apr 12.

2014 Role of Risk Perception in Decision Making for Arsenic Mitigation, w/ Vedwan, N. Society for Applied Anthropology Annual Meeting, Albuquerque, NM, March 18-22.

2013 Developing a Socioeconomic Model of Sustainable Arsenic Mitigation: A Case Study of Bihar, India. Sustainability Seminar Series, Department of Earth and Environmental Studies. Montclair State University, NJ, Apr 16.

2013 Groundwater Arsenic Contamination in Eastern India: A Composite Vulnerability Approach to Assessing Risk and Adaptation, w/ Vedwan, N. Society for Applied Anthropology: Natural Resource Distribution and Development in the 21st Century. Denver, CO, March 19-23.

2009 Arsenic in Food Chain- A New Threat to inhabitants of Bihar, w/ Ghosh, A.K.' Geogenic Contamination of Ground Water, Government of India, Ministry of Water Resources, Central Ground Water Board, Mid-Eastern Region, Patna, India., March 21-22.

2008 Water and Sanitation- Constraints and Solution. Seminar on 'Citizen's Report on Domestic Water and Sanitation-Consultation Meeting,' Water Aid India and Department of Environment and Water Management, Anugrah Narayan College, Magadh University, Patna, India, Aug 6.

2007 **Singh, S.K.**, Ghosh, A.K., Singh, S., Shankar, V. Arsenic Contamination in Ground Water with special reference to Bihar. National Seminar sponsored by the University Grants Commission, India, organized by L. P. Shahi College, Patna, Magadh University, India, July 14-15.

2007 Shankar, V., **Singh, S.K.**, Ghosh, A.K., Singh, S. Study on Physico-Chemical Characteristics of Flowing Water of Ganges River at Mokamah. University Grants Commission, India sponsored National Seminar organized by L. P. Shahi College, Patna, Magadh University, India, July 14-15.

2007 Bose, N., Ghosh, A.K., Roy, N.P., Upadhyay, A., Singh, A., and **Singh, S.K.** Vulnerability of Population exposed to Arsenic contamination in the Mid-Ganga Plain of Bihar (India). Annual Conference of Royal Geographical Society (RGS-IBG – AC-07), London, August 28-31.

2006 Ghosh, A.K., Singh, S.K., Bose, N., Roy, N.P., **Singh, S.K.**, Singh, A., Upadhyay, A., and Kumar, Shailendra. Assessment of Arsenic Contamination in the Ground Water Sources of Ganga Floodplain of Bhojpur District, Bihar. International Conference- Groundwater for Sustainable Development Problems, Perspectives, and Challenges, Jawaharlal Nehru University New Delhi, India, February 1-4.

Abstracts

2014 **Singh, S.K.**, Vedwan, N., and Thampi, A.P. Decision Support System for Vulnerability Assessment in Arsenic Contaminated Areas. The Earth Living Skin: Soil, Life, and Climate Changes. EGU – SSS Conference, Bari, Italy, September 22–25.

2014 **Singh, S.K.** and Vedwan, N. Socioeconomic Model of Arsenic Mitigation: A Case Study in India. Goldschmidt Conference. Sacramento, CA, June 8-13.

2009 **Singh, S.K.** and Bozzolasco, A. Arsenic Problem in India: an Environmental Justice Perspective. 11th Global Conference: Environmental Justice and Global Citizenship, Oxford, U.K., July 3-5.

2009 Ghosh, A.K., Singh, Shatrunjay K., Bose, N., and **Singh, S.K.** Monitoring and Management of Arsenic and Fluoride Contamination in Ground Water of Bihar. 31st Annual Conference of Bangladesh Chemical Society, University of Dhaka, Dhaka, Bangladesh, January 30-February 2.

2008 Ghosh, A.K., Bose, N., **Singh, S.K.**, and Bhatt, A.G. A comprehensive model for arsenic Mitigation in rural areas of developing economies. 2nd PRAMA workshop on Risk Assessment. The University of Manchester, U.K., June 23-25.

2008 Ghosh, A.K., Bose, N., and **Singh, S.K.** Emerging constraint in the mitigation strategies adopted in the Arsenic affected area of Bihar plain. 2nd International Congress, Arsenic in the Environment: Arsenic from Nature to Human. Valencia, Spain, May 21-23.

2007 Ghosh, A.K., Bose, N., **Singh, S.K.**, and Bhatt, A.G. A comprehensive model for arsenic Mitigation in rural areas of developing economies. 2nd PRAMA workshop on Risk Assessment. The University of Manchester, U.K., June 23-25.

Poster Presentation

2018 Lesion Localization and Classification in Mammograms Using Advanced Deep Learning Based on Retinanet, w/Sharihahmadian, E., Feng, J., Strait, C, Gomathy, K.P., and Swami, M. Big Data and Cancer Precision Medicine Conference, organized by Dana-Farber Cancer Institute, cBio Center at Dana-Farber, Nature, Nature Biotechnology and Nature Biomedical Engineering. Joseph B. Martin Conference Center, Boston, MA, USA, October 1-2.

2013 **Singh, S.K.** and Ferdinand, A.V. Waterborne Diseases Prevention Priority Index (WDPPI): A Spatial Decision Support Tool. GIS for the United Nations and the International Community Conference (5219), New York, October 10-11.

2012 **Singh, S.K.** and Vedwan, N. Deriving a Social Vulnerability Scale for Arsenic Affected Areas in South Asia. Socio-Environmental Synthesis Education Workshop, National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD, June 4-5.

2011 **Singh, S.K.** and Ghosh, A.K. Health Risk Assessment of Ground Water Arsenic Contamination in Bihar (India) and Related Socioeconomic Challenges. Students' Research Symposium. Montclair State University, NJ, Apr 16.

2010 **Singh, S.K.** and Ghosh, A.K. Groundwater Arsenic Contamination in Maner (Patna) – Kids are at High Health Risk. The Unite For Sight Global Health and Innovation Conference.' Yale University, New Haven, CT, April 17-18.

TEACHING EXPERIENCE

School of Informatics, Digital University of Kerala, India, Adjunct Professor

Ecological Informatics

Indian Institute of Information Technology and Management, Kerala University of Digital Sciences, Innovation, and Technology, India, Course Instructor

International Certificate Program in Environmental Data Analytics (ICPEDA) (Nov 30, 2020- Feb 22, 2021)

Anugrah Narayan College, Patna, Patliputra University, Bihar, India, Resource Person

Machine Learning: Logistic Regression (Aug 29 to Sept 5, 2020)

Remote Sensing (March 2021)

Cygnus Professionals Incorporation, Somerset, NJ, Faculty: Data Analytics and Science

Decision Science (fall 2015, spring/summer 2016)
Generalized Linear Regression Model (fall 2015, spring/summer 2016)
Multivariate Regression Model (fall 2015, spring/summer 2016)
Principal Component Analysis (fall 2015, spring/summer 2016)
Structured Query Language and Hive (fall 2015, spring/summer 2016)
Tableau (fall 2015, spring/summer 2016)
R (fall 2015, spring/summer 2016)
ArcGIS (fall 2015, spring/summer 2016)

Department of Earth and Environmental Studies, Montclair State University, Teaching Assistant

Organic Geochemistry (fall 2013)
Human Environment (fall 2013)

Magadh University, Anugrah Narayan College, India, Adjunct Professor

Department of Environment and Water Management

Research Method (Summer 2013)
Environmental Instrumentation (Summer 2013)
Environmental Sciences (2003-2010)
Environmental Toxicology (2003-2010)

Water quality assessment, monitoring, and management (2003-2010)
Air quality assessment, monitoring, and management (2003-2010)
Natural resources management (2003-2010)
Environmental management (2003-2010)
Sustainable development (2003-2010)

Department of Computer Applications

Environmental Management in Computer Science (2007-2008)

STUDENT ADVISING

2024-2024 Usha Martin University, Ranchi, Jharkhand, India.
Ankit Rai, B.Tech.: "Developing an End-to-End Machine Learning Prediction Dashboard"

2024-2024 Usha Martin University, Ranchi, Jharkhand, India.
Kshitij Saxena, B.Tech.: "Develop a Health Consultation Scheduling App"

2024-2024 Usha Martin University, Ranchi, Jharkhand, India.
Mukesh Kumar, B.Tech.: "Develop a Good Health App"

2023-2024 Masters in Ecology (Ecological Informatics), Digital University Kerala, Trivandrum, India
Ma. Asha Mariam Manoj, M.S.: "Time Series and Predictive Analysis of Air Quality Data using various Machine Learning Algorithms."

2023-2023 The Overlake School, Seattle, WA, USA
Ms. Kashvi Swami: "Application of Artificial Techniques in Astronomy."

2022-2024 BIT Mesra, Ranchi, Jharkhand, India
Preetish Patel, B. Tech.: " Application of Artificial Intelligence Techniques in Data Discovery, Analysis, and Decision-Making."

2021-2022 Gurukula Kangri Vishwavidyalaya, Department of Computer Science and Engineering, Uttarakhand, India
Eshan Singh, B.Tech.: " Application of Artificial Intelligence in Cyber Security and Decision-Support Systems."

2017-2018 Department of Environmental Studies and Resource Management, TERI University, New Delhi, India
Ms. Kajal Singh, M.S.: "A comparative study of spatiotemporal changes in the wetlands in India."

2009-2010 Department of Biotechnology, Darbhanga University, Bihar, India
Mr. Mahesh Kumar, M.S.: "Genotoxic effect of Arsenic on *Allium cepa* (Onion)."

2008-2009 Department of Biotechnology, Darbhanga University, Bihar, India
Mr. Bablu Kumar, M.S.: "Arsenic-resistant bacteria: A Biological weapon for Arsenic Mitigation Practices."

RESEARCH GRANTS

2023-2026 Co-Principal Investigator. Identification and Characterization of Exosomal MicroRNAs with Prognostic and Therapeutic Implications in Non-Small Cell Lung Cancer: An Approach Towards Molecular Therapeutic Developments for Patients Exposed to Tobacco Smoke and Arsenic, funded under Grant-in-Aid Scheme by the Department of Health Research, Ministry of Health and Family Welfare, Government of India, New Delhi (Grant money: Rs. 5,153,280).

2008-2009 Principal Investigator. Assessment of filtration capacity of a low-cost arsenic-filter AQUAPAL in field and lab environment, sponsored by South-Asia Cultural System Analysis Group (cu SAG), University of Maryland at College Park, Department of Anthropology, College Park, Maryland, US (Grant money- Rs. 125,000).

RESEARCH EXPERIENCE

2021-present **CAIES Foundation, Patna, Bihar, India**

Project 1: AI for Landslide Prediction

Project 2: AI for Sustainable Arsenic Mitigation and Social Behavior Prediction

Project 3: Impact of Arsenic and PM 2.5 on Lung Cancer

2023-present **Sonata Software North America Inc., NJ, USA**

Project 1: GenAI research assistant

Project 2: Synthetic data generation

Project 3: GenAI governance framework

2022-2023 **Takeda Pharmaceutical Inc., Lexington, MA, USA**

Project 1: AI strategy and governance framework

2015-2021 **Virtusa Corporation, MA, USA**

Department of Artificial Intelligence & Analytics

Project 1: A decision support system for drug sales forecasting using the Prophet model

Project 2: A fraudulent healthcare detection system based on a Deep Neural Network

Project 3: Breast cancer detection using Convolutional Neural Network and Retinanet

Project 4: A fraudulent financial transaction detection system using a DNN classifier

2010-2014 **Montclair State University, NJ, USA**

Department of Earth and Environmental Studies

Project 1: Developing Sustainable Models of Arsenic-Mitigation Technologies in the Middle-Ganga Plain in India

Project 2: Evaluating Hydrogeological and Topographic Controls on Groundwater Arsenic Contamination in the Middle-Ganga Plain in India: Towards Developing Sustainable Arsenic Mitigation Models

Project 3: Likelihood of Adoption of Arsenic-Mitigation Technologies under Perceived Risks to Health, Income, and Social Discrimination to Arsenic Contamination

Project 4: Assessing and mapping composite vulnerability to groundwater arsenic contamination

Project 5: Socioeconomic Impact of Forest Biomass-Based Bioenergy Project, a United States Department of Agriculture-sponsored project

Department of Biology

Project: Benthic Biodiversity in Lake Wapalanne, New Jersey School of Conservation, Stokes State Park, NJ

Department of Anthropology

Project: Island Historical Ecology: Socionatural Landscapes across the Caribbean Sea, a National Science Foundation-funded project

Department of Environmental Health and Safety

Project: Application of GIS and Remote Sensing in mapping MSU campus sustainability

Department of Health and Nutrition

Project: Heavy metal contamination in vegetables grown in an urban community garden in the northeast U.S.

2001-2010 **Magadh University, Anugrah Narayan College, Patna, Bihar, India**

Department of Environment and Water Management

Project 1: Entry of arsenic into the food chain in Bihar, India

Project 2: Assessment of filtration capacity of a low-cost arsenic-filter AQUAPAL in field and lab environment, South-Asia Cultural System Analysis Group (cu SAG), University of Maryland at College Park, Department of Anthropology (Grant money- Rs.125,000)

Project 3: Assessment of groundwater contamination of arsenic in Bihar, India, UNICEF, Bihar, India (grant money- Rs.2,500,000)

Post Graduate Department of Environmental Sciences

Project 1: Performance evaluation of different methods of composting

Project 2: Assessment of solid waste management in Patna, Bihar, India

COURSES & TRAINING PROGRAMS DESIGNED

2024 **Environmental Data Science** for Master's in Environmental Science, Kerala Digital University, Kerala, India

2021 **International Certificate Program in Environmental Data Analytics,** Kerala Digital University, Kerala, India

PROFESSIONAL/CONSULTING EXPERIENCE

2023 - 2024 Assistant Vice President, Data & Analytics, Sonata Software North America Inc, NJ, USA
Job description: *AI/GenAI/Data Science strategy, governance, and solution development*

2022-2023 Business Process Architect, Takeda Pharmaceuticals Inc., MA, USA,
Job description: *Technological innovation, business process development and automation, and data and artificial intelligence governance*

2021-2021 Director of Technology/Head of Artificial Intelligence Competency, Healthcare and Life Sciences, Virtusa Consulting Services Pvt Ltd, India
Job description: *Led artificial intelligence solutions for life sciences and healthcare clients*

2021-2021 Associate Director of Technology/Head of Artificial Intelligence Competency, Healthcare, and Life Sciences, Virtusa Consulting Services Pvt Ltd, India
Job description: *Led artificial intelligence solutions for life sciences and healthcare clients*

2019-2020 Senior Architect/Head of Artificial Intelligence Competency, Healthcare and Life Sciences, Virtusa Corporation, Southborough, MA, USA
Job description: *Led data governance and analysis of a life insurance client*

2016-2019 Data Architect, Department of Artificial Intelligence, Virtusa Corporation, Southborough, MA, USA
Job description: *Big data analytics and dashboard development for a giant digital data client*

2015-2016 Data Scientist, Cygnus Professionals Incorporation, Somerset, NJ, USA
Job description: *Big data analytics and dashboard development for a giant digital data client*

2014-2015 Senior Environmental Scientist, Group for the Protection, Study, and Monitoring of the Environment, Paterson, NJ, USA
Job description: *Led environmental management projects in the U.S. and the Dominican Republic*

2013-2013 Senior Environmental Scientist, Group for the Protection, Study, and Monitoring of the Environment, Paterson, NJ, USA
Job description: *Led environmental management projects in the U.S. and the Dominican Republic*

2012-2012 Sustainability Coordinator, Department of Environmental Health and Safety, Montclair State University, Montclair, NJ, USA

Job description: *Led environmental sustainability projects in the U.S.*

2007-2007 Assistant Pollution Control Expert, Japan International Cooperation Agency (JICA) Study Team: NIPPON KOEI, Gurgaon, India

Job description: *Led noise pollution and vibration prediction models development and report writing of the Feasibility Study on the Development of a Dedicated Multimodal High Axle Load Freight Corridor with Computerized Control for Delhi-Mumbai and Delhi-Howrah in India*

2005-2007 School Sanitation and Hygiene Education (SSHE) Coordinator UNICEF, Patna, Bihar, India

Job description: *Facilitated and strengthened the School Sanitation and Hygiene Education Program in Bihar, India*

2004-2005 Project Group Leader, UNICEF, Bihar and the Department of Environment and Water Management, Anugrah Narayan College, Patna, Bihar, India

Job description: *Led UNICEF's flagship project, Assessing and Mapping Groundwater Arsenic Contamination of Bihar, India*

2001-2003 Assistant Project Coordinator (Natural Resource Management), Center for Integrated Development, International Non-Profit Organization, Patna, Bihar, India

Job description: *Led natural resources management projects in Bihar, India*

PROFESSIONAL SERVICE

Peer Reviewing/Editing

- Associate Editor of Frontiers in Environmental Science: Environmental Informatics and Remote Sensing
- Associate Editor of Frontiers in Environmental Science: Big Data, AI, and the Environment
- Associate Editor, Food Studies: An Interdisciplinary Journal
- Editorial Board Member, International Journal of Applied Environmental Sciences
- Editorial Board Member, International Journal of Applied Engineering Research
- Topic Editor: Electronics
- Bulletin of the World Health Organization
- Chemosphere
- Economics & Human Biology
- Environmental Science and Technology
- Environmental Technology and Innovation
- Environmental Science: Water Research & Technology
- Human and Ecological Risk Assessment: An International Journal
- International Journal of Environmental Science and Technology
- ISPRS International Journal of Geo-Information
- Journal of Applied Sciences and Environmental Management
- Journal of Trace Elements in Medicine and Biology
- Remote Sensing
- Science of the Total Environment
- Scientific Reports
- Sustainable Water Resources Management

To Profession

- Chair, Graduate Student Organization (GSO), Montclair State University, NJ, 2012-2014
- Founder and Group President, United States Green Building Council (USGBC), Student Chapter, Montclair State University, NJ, 2012-2014
- Executive Member, GSO, Montclair State University, NJ, 2011-2012
- Chairperson, Membership Committee, Bihar State Productivity Council, Patna: State Chapter of National Productivity Council, Government of India, 2006-2008
- State Coordinator, Bihar: Eastern Zonal Partnership for Integrated Water Resources Management, A unit of Global Forum- UNDP initiative, 2006-2008

To Community

- Judge, Science Fair in Solomon Schechter Day School of Bergen County, New Milford, NJ, 2012
- Wrote and directed one-act play- 'Prakriti Maa (Nature)' Golden Jubilee Ceremony of Anugrah Narayan College, Patna, Bihar, India-Received First Prize, 2006
- Wrote, directed, and acted in 'MAA (Mother Earth)'. Renowned personality of Hindi/Bhojpuri cinema, Noor Fatima, played the lead role under my direction in Patna, Bihar, India, 2002
- Directed and acted in "I am suffocating", Air pollution, Anugrah Narayan College, Patna, Bihar, India, 2002

PROFESSIONAL TRAINING AND CERTIFICATION

2024 Certified Artificial Intelligence Leader (CAIL™), California Artificial Intelligence Institute
2023 Ethics and Governance of Artificial Intelligence for Health, World Health Organization
2021 Fundamentals of Snowflake
2020 AI/ML Bootcamp: Amazon Web Services
2019 Building and Managing HL7 integrations v2019.1
2018 Machine Learning Immersion - Advanced Solutions Lab, Google
2018 How to Deliver Professional Services Organization – Cloud Discover Machine Learning, Google
2018 How to Deliver Professional Services Organization – Cloud Plan, Google
2017 Machine Learning A-Z™: Hands-On Python & R in Data Science, Udemy
2015 Text Analytics Essentials, IBM and Big Data University
2015 Big Data Analytics, Big Data University
2015 Data Science Methodology, IBM, and Big Data University
2014 Occupational Safety and Health Administration (OSHA): Annual Refresher on Health and Safety for Hazardous Waste Site Investigation Personnel, Rutgers School of Public Health, NJ
2014 Leadership in Energy and Environmental Design (LEED) 201: Core Concepts & Strategies, US Green Building Council, Montclair, NJ
2012 OSHA Health and Safety: Hazardous Waste Operations and Emergency Response. United States Environmental Protection Agency (USEPA), Region-2, Edison, NJ
2012 ArcGIS for Server: Sharing GIS Content on the Web, ESRI, New York City, NY
2009 Sustainable Development, Summer School on Sustainable Innovation in India, GTZ, India in Hyderabad, Tirupati, and Delhi, India
2009 Groundwater Issues and Artificial Recharge, The Government of India, Ministry of Water Resources, Central Ground Water Board, Mid-Eastern Region, India
2008 Geomatica 10.1, GIS/Remote Sensing Software, India
2006 Training of Trainers (TOT), Bihar State Water & Sanitation Mission, CCDU Department of Public Health Engineering Department, Government of Bihar, India
2005 Foundation course on 'School Sanitation & Hygiene Education, Bihar Education Project Council (BEPC), Public Health Engineering Department (PHED) & UNICEF, India
2004 Biomonitoring of River, Central Pollution Control Board, New Delhi, India

RELATED PROFESSIONAL SKILLS

Analytics

Research Methods & Design Development | Statistics Analysis & Modeling | Machine Learning, Deep Learning and Artificial Intelligence | Natural Language Understanding, Processing, & Generation | Image processing and classification | Generative AI |AgenticAI

Geospatial

ArcGIS |QGIS |Remote Sensing | DEM and Spatial Modelling

Cloud Computing and Visualization

AI/ML on Google Cloud Platform and AWS | Tableau, QlikView, QuickSight, R Shiny

Analytical Packages

SPSS | JMP | RStudio | WEKA | Python

MEDIA COVERAGE

2025 Choosing the Right Agentic AI Framework: Improving Efficiency and Innovation. Aithority.

2025 Data: The New Green Fuel Driving Sustainable Innovation. Express Computer.

2014 How the arsenic-affected perceive risk. Nature Asia.

2013 Montclair State University, College of Science and Mathematics News Letter Fall 2011. USGBC Students Chapter Established.

2012 Arsenic may contaminate rice and drinking water, exposing pregnant women and their fetuses to health risks. MD Current. March.

2011 Montclair State University, College of Science and Mathematics News Letter Fall 2011.

PROFESSIONAL ASSOCIATIONS

- Fellow of the Royal Statistical Society (RSS) (232799), U.K., 2024 - present
- Member of the Ecological Society of America (ESA), U.S., 2024 - present
- Professional Member of the Association for Information Systems (AIS), U.S., 2024 - present
- Professional Member of the Association for Computing Machinery (2262167), U.S., 2023 - present
- Member of Sigma Xi, The Scientific Research Honor Society (20239992886), U.S., 2023 - present
- Member of Royal Society of Chemistry (MRSC- 726125), U.K., 2023 - present
- Member of the American Chemical Society (30046670), USA, 2023 - present
- Member of Special Interest Group on Knowledge Discovery and Data Mining (2262167), U.S., 2023 - present
- Association for the Advancement of Artificial Intelligence (630492), C.A., USA, 2021 - present
- International Association of Engineers, Hong Kong, 2021 - present
- The Institute of Electrical and Electronics Engineers (94014186), U.S., 2018 - present
- The International Society of the Environmental Information Sciences, Canada, 2016 - present
- Data Science Association, U.S., 2016 - present
- Water Supply & Sanitation Collaborative Council (WSSCC), 2014 - present
- American Association for the Advancement of Science (41122816), 2014 - present
- Understanding Risk Network, 2014 - present

LANGUAGES

English: Advanced reading, writing, speaking | Hindi: Native | Bengali: Intermediate speaking