

## Curriculum Vitae

**SUDIPTO MANDAL, Ph.D**



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<b>Professional</b>	Assistant Professor
<b>Address</b>	Ecology & Environmental Modelling Laboratory Department of Environmental Science The University of Burdwan, Golapbag, Burdwan, India, Pin-713104
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<b>E-mail</b>	sudipto11@gmail.com; sudiptomandal@yahoo.co.in
<b>Date of Birth</b>	13 <sup>th</sup> October 1979
<b>Nationality</b>	Indian
<b>Education</b>	2000, B. Sc in Zoology at Ramakrishna Mission Vivekananda Centenary College of Calcutta University 2002, M. Sc in Zoology with Ecology as special paper at Presidency College of Calcutta University 2009, Ph. D. in Zoology at Visva-Bharati University, Thesis entitled-“Impact of detritus on plankton dynamics at Sagar Island of Hooghly - Matla estuarine system.”
<b>Scholarships &amp; Awards</b>	2002 (Dec) & 2003 (Dec), Awarded Lectureship by Council of Scientific and Industrial Research and University Grant Commission India through National Eligibility Test. 2004 (June), Awarded Junior Research Fellowship under University Grants Commission Fellowship Scheme by Council of Scientific and Industrial Research and University Grants Commission, India through National Eligibility Test. 2009 (Jan), Awarded Dr. D. S. Kothari Post Doctoral Fellowship by University Grants Commission, India. 2015 (Nov), Special Achievement Award in for excellent scientific merit of the research work and oral presentation at International Conference on India Biodiversity Meet (IBM 2015), 16-18 November, 2015, ISI Kolkata, Kolkata, India. 2016 (Feb), Recognized Reviewer Award from The Journal – Ecological Modelling, Elsevier, (International Award). 2017 (Jun), Outstanding Reviewer Award from the Journal-Science of the Total Environment, Elsevier, (International Award). 2017 (Jul), Outstanding Reviewer Award from the Journal – Ecological Modelling, Elsevier, (International Award).

## Professional Position

2003 (Sep) - 2005 (Jan), Lecturer in Zoology (Part-Time Basis), Department of Zoology, Presidency College, Kolkata, Calcutta University

2005 (Jan) - 2007 (Jan), Junior Research Fellow, Ecological Modelling Laboratory, Department of Zoology, Visva-Bharati University

2007 (Jan) - 2009 (Jan), Senior Research Fellow, Ecological Modelling Laboratory, Department of Zoology, Visva-Bharati University

2009 (Feb) - 2010 (Apr), Dr. D. S. Kothari Post Doctoral Fellow, Ecological Modelling Laboratory, Department of Zoology, Visva-Bharati University. Title: -“Simulation modelling of the impact of detritus on detritus food chain at Sagar island of Hooghly-Matla estuarine system”

2010 (Apr) – 2014 (July), Assistant Professor in Zoology, Department of Zoology, Trivenidevi Bhalotia College, P. O. Raniganj, Dist. Burdwan, West Bengal. India. Pin- 713347

2014 (Aug) – Present, Assistant Professor in Environmental Science, Department of Environmental Science, The University of Burdwan, West Bengal. India. Pin- 713104

## Professional Activities

- Dynamic modeling in aquatic systems, arctic fjord, freshwater systems using STELLA 6.0 softwarepackage
- Modelling Greenhouse gas emissions, carbon sequestration and sustainability science in mangrove, agricultural and urban systems
- Network analysis
- Modelling biogeochemical cycles
- Field survey and estimation of various forms of nitrogen, phosphorus and carbon in soil and water

## Research Projects

**Principal Investigator**—“Estimation of sustainability of an industrialized area using carbon cycle model” 2012-2015, funded by University Grants Commission, India Project Scheme (Fund: 1.2 lakhs)

**Principal Investigator**—“Modelling of Greenhouse Gas Emissions from Paddy Fields through Conventional, System of Rice Intensification and Zero-tillage Practices in Burdwan District, West Bengal, India” 2017-2021, funded by DST-SERB (Fund: 38.1 lakhs).

**Principal Investigator**—“Structurally Dynamic Model of Greenhouse Gas Emissions and Carbon Sequestration in Sundarban Mangrove Ecosystem, India” 2019-2022, funded by DST-SERB (Fund: 37.6 lakhs).

## Publications (Research Papers)

- Roy, M., **Mandal, S.**, Ray, S., 2008. Detrital ontogenic model including decomposer diversity. *Ecological Modelling*, Elsevier 215, 200-206.
- Mandal, S., Ray, S., Roy, S. K., **Mandal, S.**, 2009. Concept of exergy and its extension to ecological system. In: Pelissier, G., Calvet, A., (eds.). *Handbook of Exergy, Hydrogen Energy and Hydropower Research*. Nova Science Publishers Inc. New York.
- Mandal, S.**, Ray, S., Ghosh, P. B., 2009. Modelling of the contribution of dissolved inorganic nitrogen (DIN) from litterfall of adjacent mangrove forest to Hooghly – Matla estuary, India. *Ecological Modelling*, Elsevier, 220, 2988-3000.
- Mandal, S.**, Ray, S., Sarkar A., Ghosh, P. B., 2009. Degradation of mangrove litter and its contribution as dissolved inorganic nitrogen to adjacent estuary of Sagar island, Sunderban mangrove ecosystem, India. In: Metras, J. N. (ed.) *Mangroves Ecology, Biology and Taxonomy*. Nova Science Publishers Inc. New York.
- Ray, S., Mandal, S., Mukherjee J., Roy, M., **Mandal, S.**, Saikia S. 2011. Body Size versus Rate Parameters of Zooplankton and Phytoplankton: Effects on Aquatic Ecosystems, In: Kettel, G. (ed.) *Zooplankton and Phytoplankton: Types, Characteristics and Ecology*. Nova Science Publishers Inc. New York.
- Mandal, S.**, Debnath, M., Ray, S., Ghosh, P. B., Roy, M., Ray, S. 2012. Dynamic modelling of dissolved oxygen in the creeks of Sagar island, Hooghly–Matla estuarine system, West Bengal, India. *Applied Mathematical Modelling*. 36, 5952-5963.
- Mandal, S.**, S. Ray, S., Ghosh, P.B. 2012. Modelling the impact of mangroves on fish population dynamics of Hooghly - Matla estuarine system, West Bengal, India. *Procedia Environmental Sciences*. Elsevier. 13, 414-444.
- Mandal, S.**, S. Ray, S., Ghosh, P.B. 2012. Comparative study of mangrove litter nitrogen cycling to the adjacent estuary through modeling in pristine and reclaimed islands of Sundarban mangrove ecosystem, India. *Procedia Environmental Sciences*. Elsevier. 13, 340-362.
- Mandal, S.**, Ray, S., Ghosh, P. B. 2012. Modeling nutrient (dissolved inorganic nitrogen) and plankton dynamics at Sagar island of Hooghly – Matla estuarine system, West Bengal, India. *Natural Resource Modeling*. 25(4), 629-652.
- Mandal, S.**, Ray, S., Ghosh, P. B., 2013. Impact of mangrove litterfall on nitrogen dynamics of virgin and reclaimed islands of Sundarban mangrove ecosystem, India. *Ecological Modelling*, Elsevier. 252, 153-166.
- Goswami, R., **Mandal, S.**, Mandal S., Ray, S., Mazumder, S. 2014. Effect of temperature and arsenic on *Aeromonas hydrophila* growth, a modeling approach. (Accepted), *Biologia*, Springer. 69, 1-9, DOI: 10.2478/s11756-014-0392-6
- Mandal, S.**, Goswami, A. R., Mukhopadhyay, S. K., Ray, S. 2015. Simulation model of phosphorus dynamics of an eutrophic impoundment – East Calcutta Wetlands, a Ramsar site in India. *Ecological Modelling*, Elsevier. 306, 226-239.
- Mandal, S.**, Ray, S. 2015. 'Ecosystem Services in relation to Carbon Cycle of Asansol-Durgapur Urban System, India' In: Park. Y. S., Lek, S., Baehr, C., Jorgensen, S. E. (eds.) *Advanced Modelling Techniques Studying Global Changes in Environmental Sciences*, Elsevier. 247-269.
- Ray, S. Mukherjee, J., **Mandal, S.**, 2015. "Modelling nitrogen and carbon cycles in Hooghly along with adjacent mangrove system" In: Park. Y. S., Lek, S., Baehr, C., Jorgensen, S. E. (eds.) *Advanced Modelling Techniques Studying Global Changes in Environmental Sciences*, Elsevier. 289-320.

- Chatterjee, P., Mandal, P., **Mandal, S.** and Chatterjee, S., 2019. Vermicompost and cow dung admixture increases rhizosphere bacterial population and promotes rapid physiological maturity in Maize (*Zea mays* L.). *NASS Journal of Agricultural Sciences*, 1(2), pp.27-36.
- Ghosh, P.B. and **Mandal, S.**, 2019. Degree of partitioning of heavy metals in different environmental segments of a sewage-fed fishery pond at East Kolkata Wetland, India—A case study. *International Journal of Chemical and Environmental Sciences*, 1(1), pp.7-14.
- Ghosh, S., Mondal, A., Gangopadhyay, S. and **Mandal, S.**, 2020. Cadmium bioaccumulation in *Lamellidens marginalis* and human health risk assessment: A case study in India. *Human and Ecological Risk Assessment: An International Journal*, 26(3), pp.713-725.
- Ghosh, S., Mal, M. and **Mandal, S.**, 2020. A dynamic model of cadmium bioaccumulation in *Lamellidens marginalis*, an edible shellfish in India. *Ecological Modelling*, 419, p.108957.
- Ghosh, P. and **Mandal, S.**, 2020. Assessment of water quality status of some water bodies in Kolkata. *International Journal of Chemical and Environmental Sciences*, 1(2), pp.54-57.
- Das, N., Mondal, A., Gangopadhyay, S., Banerjee, R., Batabyal, S., Ghosh, P.B. and **Mandal, S.**, 2020. Environmental variables regulating organic carbon dynamics of Sundarban mangrove ecosystem, India. *International Journal of Chemical and Environmental Sciences*, 2(1), pp.7-17.
- Banerjee, R., Batabyal, S., Guha, S., Mondal, A., Gangopadhyay, S., Das, N., Ghosh, P. and **Mandal, S.**, 2020. Temporal stratification of weeds under System of Rice Intensification and conventional rice cultivation. *International Journal of Chemical and Environmental Sciences*, 2(1), pp.41-52.
- Das, N., Mondal, A. and **Mandal, S.**, 2022. Maximum entropy modelling for predicting the potential distribution of methanogens in Sundarban mangrove ecosystem, India.
- Mondal, A., Das, N. and **Mandal, S.**, 2022. A comparative study of the biodiversity associated with wild and domesticated.
- Mondal, A., Mondal, S. and **Mandal, S.**, 2022. Empirical dynamic model deciphers more information on the nutrient (N)—phytoplankton (P)—zooplankton (Z) dynamics of Hooghly-Matla estuary, Sundarban, India. *Estuarine, Coastal and Shelf Science*, 265, p.107711.
- Mondal, A., Das, N. and **Mandal, S.**, 2022. Domestication of rice reshaped associated biodiversity of rice field ecosystem. *Journal of Animal Diversity*, 4(1), pp.74-90.
- Das, N., Mondal, A. and **Mandal, S.**, 2022. Dynamics of methane and carbon dioxide emissions in the reclaimed islands of Sundarban mangrove ecosystem, India. *Austral Ecology*, 47(2), pp.412-427.
- Das, N., Mondal, A. and **Mandal, S.**, 2022. Polluted waters of the reclaimed islands of Indian Sundarban promote more greenhouse gas emissions from mangrove ecosystem. *Stochastic Environmental Research and Risk Assessment*, pp.1-12.
- Batabyal, S., Das, N., Mondal, A., Banerjee, R., Gangopadhyay, S. and **Mandal, S.**, 2022. Land Cover Changes in Green Patches and Its Impact on Carbon Sequestration in an Urban System, India. In *Applied Geomorphology and Contemporary Issues* (pp. 397-409). Cham: Springer International Publishing.
- Mandal, S.**, Chatterjee, P., Das, N., Banerjee, R., Batabyal, S., Gangopadhyay, S. and

- Mondal, A., 2022. Modelling the role of urban forest in the regulation of carbon balance in an industrial area of India. *Acta Ecologica Sinica*, 42(5), pp.553-564.
- Gangopadhyay, S., Banerjee, R., Batabyal, S., Das, N., Mondal, A., Pal, S.C. and **Mandal, S.**, 2022. Carbon sequestration and greenhouse gas emissions for different rice cultivation practices. *Sustainable Production and Consumption*, 34, pp.90-104.
- Das, N. and **Mandal, S.**, 2022. Microbial populations regulate greenhouse gas emissions in Sundarban mangrove ecosystem, India. *Acta Ecologica Sinica*, 42(6), pp.641-652.
- Das, N., Chakraborty, R., Pal, S.C., Mondal, A. and **Mandal, S.**, 2023. A novel coupled framework for detecting hotspots of methane emission from the vulnerable Indian Sundarban mangrove ecosystem using data-driven models. *Science of The Total Environment*, 866, p.161319.
- Mondal, A., Das, N., Banerjee, R., Batabyal, S., Gangopadhyay, S., Ray, H., Biswas, N. and **Mandal, S.**, 2023. Investigating the Health of a Rice Field Ecosystem Using Thermodynamic Extremal Principles. *Ecology, Economy and Society—the INSEE Journal*, 6(1), pp.81-108.
- SAMANTA, P., MONDAL, N.K., GUPTA, S., **MANDAL, S.** and GHOSH, A.R., 2023. HEALTH EFFECTS OF PESTICIDES ON AGRICULTURAL WORKERS. *SCIENCE AND CULTURE*.
- Gangopadhyay, S., Banerjee, R., Batabyal, S., Mondal, A., Das, N., Ghosh, S. and **Mandal, S.**, 2023. Intensification and no till system are efficient nitrogen allocators in rice crops. *Journal of Plant Nutrition*, 46(6), pp.958-970.
- Gangopadhyay, S., Chowdhuri, I., Das, N., Pal, S.C. and **Mandal, S.**, 2023. The effects of no-tillage and conventional tillage on greenhouse gas emissions from paddy fields with various rice varieties. *Soil and Tillage Research*, 232, p.105772.
- Das, N., Mondal, A., Saha, N.C., Ghosh, S. and **Mandal, S.**, 2023. Decadal loss of above-ground biomass and subsequent potential CO<sub>2</sub> emission from the Sundarbans mangrove ecosystem, India. *Acta Ecologica Sinica*, 43(3), pp.452-458.
- Sen, P., Das, N., Saha, N.C., Ghosh, S., Mondal, A. and **Mandal, S.**, 2023. Modeling of Cadmium Bioaccumulation Dynamics in *Channa punctata* (Bloch, 1793) of Dankuni Wetland Ecosystem and Assessment of Risk to Human Health. *Applied Biochemistry and Biotechnology*, 195(6), pp.3681-3698.
- Gangopadhyay, S., Saha, A., Pal, S.C., Banerjee, R., Batabyal, S., Das, N., Ghosh, P.B., Mondal, A. and **Mandal, S.**, 2023. A new methodological approach to the establishment of sustainable agricultural ecology in drought vulnerable areas of eastern India. *Ecological Informatics*, 75, p.102013.
- Banerjee, R., Gangopadhyay, S., Batabyal, S., Das, N., Ray, H. and **Mandal, S.**, 2023. Litter dynamics of forest ecosystem in an urban and pristine area of West Bengal, India. *Journal of Environmental Biology*, 44(5), pp.691-698.
- Roy, D., Das, S., Panda, A., **Mandal, S.**, Biswas, N.M., Debnath, I. and Bala, T., 2023. Development and Comparative Analysis of Metronidazole Microspheres Prepared with Different Combinations of Polymers Using Ionotropic Gelation Technique. *Indian Journal of Science and Technology*, 16(42), pp.3821-3828.
- Ruidas, D., Pal, S.C., Saha, A., **Mandal, S.**, Islam, A., Towfiqul Islam, A.R.M. and Alam, E., 2024. Ecosystem richness degradation assessment from elevated hydro-chemical properties of Chilka Lake, India. *Hydrological Sciences Journal*, 69(3), pp.377-389.
- Pal, S.C., Biswas, T., Jaydhar, A.K., Ruidas, D., Saha, A., Chowdhuri, I., **Mandal, S.**, Islam, A., Islam, A.R.M.T., Pande, C.B. and Alam, E., 2024. Source identification and



- potential health risks from elevated groundwater nitrate contamination in Sundarbans coastal aquifers, India. *Scientific Reports*, 14(1), p.4153.
- Sen, P., **Mandal, S.**, Ghosh, P.B., Datta, S.K. and Saha, N.C., 2024. Carbon sequestration and methane emission of East Kolkata wetland, a Ramsar site in India. *Ecological Frontiers*.
- Batabyal, S., Gangopadhyay, S., Das, N., Pal, S., Ray, H., Banerjee, R. and **Mandal, S.**, 2024. Effect of integrated nutrient management on the growth and productivity of four high-yielding rice varieties of Eastern India. *Journal of Environmental Biology*.

### **Published Book**

- Mandal Sudipto.**, 2012. Impact of Detritus on Plankton Dynamics of Hooghly-Matla Estuary, India-A Modelling Approach, LAP, LAMBERT Academic Publishing, Germany, ISBN: 978-3-659- 14949-8.

### **Edited Book**

- Mandal Sudipto.**, 2014. Environica. Compiled Volume of the Second International Conference on Mother Earth: Save It to Achieve a Sustainable Future for All. Levant Books, India.

### **Posters**

- Mandal, S.**, 2006. Dynamic modelling of dissolved oxygen in Hooghly – Matla estuarine system. International Conference on Ecological Modelling (28<sup>th</sup> August -1<sup>st</sup> September, 2006) at Yamaguchi University, Japan
- Mandal, S.**, 2009. Simulation modelling and its application in ecology. National Symposium on Theoretical and Mathematical Biology, October 10-11, 2009 organised by NCL, Pune.
- Mandal, S.** 2010. Comparison of nitrogen dynamics in virgin and reclaimed islands in Sundarban ecosystem, India. The Abdus Salam International Centre for Theoretical Physics (ICTP), Italy, 18-27 October, 2010, at Miramare, Trieste, Italy.
- Mandal, S.**, 2011. Modelling plankton dynamics at Sagar island of Hooghly- Matla estuary, West Bengal, India. International Conference Sundarban Pavilion, April 13-14, 2011, Indian Institute of Science Education and Research (IISER) Kolkata, West Bengal, India.

### **Oral Presentations**

- Mandal, S.**, 2007. Determination of net primary productivity in Hooghly-Matla estuarine system, W.B., India: a modelling approach. National Seminar on Environment and Sustainable Development (ESD-2007) (17-18 March 2007) organised by Department of Environmental Science Sambalpur University, Orissa.
- Mandal, S.** and Paul, D., 2010. Optimization of spider web structure. 2nd IMSc Complex Systems School, January 4-29, 2010 at the Institute of Mathematical Sciences, Chennai.
- Mandal, S.**, 2011. Importance of mangrove in maintaining the grazing and detritus food chain at Sagar island of Sundarban, India. UGC Sponsored National Level

- Conference, January 27-28, 2011, T. D. B. College Raniganj, West Bengal, India.
- Mandal, S.**, 2011. Modelling the impact of mangroves on fish population dynamics of Hooghly - Matla estuarine system, West Bengal, India. The 18th Biennial Conference of International Society for Ecological Modelling, (ISEM, 2011), 20-23 September 2011, Beijing, China.
- Mandal, S.**, 2011. Comparative study of mangrove litter nitrogen cycling to the adjacent estuary through modelling in pristine and reclaimed islands of Sundarban mangrove ecosystem, India. The 18th Biennial Conference of International Society for Ecological Modelling, (ISEM, 2011), 20-23 September 2011, Beijing, China.
- Mandal, S.**, 2012. Dynamic model for prediction of fish population in Hooghly-Matla estuarine system, West Bengal, India. International Conference on Mathematical and Theoretical Biology (ICMTB, 2012), 23-27 January 2012, Pune, India.
- Mandal, S.**, 2013. Study of the phosphorus dynamics of a shallow eutrophic impoundment, East Calcutta Wetlands –a Ramsar site in India through simulation model. The 19th Biennial Conference of International Society for Ecological Modelling, (ISEM, 2013), 27-31 October, 2013, Toulouse, France.
- Mandal, S.**, 2013. Effect of salinity and temperature on plankton dynamics of Hooghly-Matla estuarine system, India. The 19th Biennial Conference of International Society for Ecological Modelling, (ISEM, 2013), 27-31 October, 2013, Toulouse, France.
- Mandal, S.**, 2014. Development of carbon cycle model of an urban system. International Conference on Environmental Biology and Ecological Modelling (ICEBEM – 2014), 24-26 February, 2014, Santiniketan, India.
- Mandal, S.**, 2014. Carbon sequestration model of an urban forest ecosystem. International Conference on India Biodiversity Meet (IBM 2014), 21-23 November, 2014, ISI Kolkata, Kolkata, India.
- Mandal, S.**, 2015. Ecosystem services and disservices of Burdwan District in relation to greenhouse gas emission. International Conference on India Biodiversity Meet (IBM 2015), 16-18 November, 2015, ISI Kolkata, Kolkata, India.

### **Invited Lectures**

- Mandal, S.**, 2014. “Best Practices Inside Institution Campus Through Environmental Study”, Spetember 19, 2014. Seminar on “ Conservation of Health and Hygiene by the way of Greenery and Cleanliness as ‘Swachh Bharat Abhiyan’ Initiatives by TDB College Raniganj, Burdwan, India.
- Mandal, S.**, 2015. “Population Properties and Dynamics of Animals”, Indas Mahavidyalaya, Burdwan, December 22, 2015. College Level Seminar
- Mandal, S.**, 2015. “Ecosystem services and disservices of Burdwan District in relation to greenhouse gas emission”. International Conference on India Biodiversity Meet (IBM 2015), 16-18 November, 2015, ISI Kolkata, Kolkata, India.
- Mandal, S.** 2016. “Phytoremediation,” at the State Level Seminar entitled-“ Application of mdicinal plants in the diagnosis of different diseases” organized by TDB College Raniganj, India, March 1, 2016.
- Mandal, S.** 2016. -" Exploring Arctic- A new dimension of scientific research", A Regional Level Seminar entitled "One day Seminar on Arctic Biology" organized by IQAC, Katwa College, 17March 2016, Katwa, Burdwan, India

- Mandal, S.**, 2016. “Environmental Modelling” in the workshop entitled “Quality Standardization in Air and Water....Parameters”. Organized by Department of Environmental Science and sponsored by DST-Govt. of West Bengal.
- Mandal, S.**, 2016. “Potential Role of Aquatic Plants in Phytoremediation”, Indas Mahavidyalaya, Burdwan, September 27, 2016. College Level Seminar.
- Mandal, S.**, 2017. “Urban traffic noise management of Burdwan city in India using artificial neural network model”. ISEM, 2017, 17-21 September 2017, University of Pusan, South Korea, Ramada Plaza JeJu, JeJu Island, South Korea
- Mandal, S.**, 2017. “Ecosystem Services and Disservices of Asansol Durgapur Planning Area”. International Conference, 28 March 2017, Department of Geography, The University of Burdwan, Burdwan, India
- Mandal, S.**, 2019. “Modelling the cadmium bioaccumulation in *Lamellidens marginalis* and human health risk assessment in East Kolkata Wetlands through mussel consumption”. International Conference on India Biodiversity Meet (IBM 2019), 14-16 February, 2019, ISI Kolkata, Kolkata, India
- Mandal, S.**, 2019. “Green Skill Development Programme on PBR”, MoEF and CC, Government of India and Kalyani University.
- Mandal, S.**, 2021. “Process based Modelling of Greenhouse Gas Emissions from Paddy Fields”, Government General Degree College, Mohanpur, West Bengal.
- Mandal, S.**, August, 2023. “Predicting Methane Emission & Carbon Sequestration Potential of East Kolkata Wetland- A Ramsar Site in India, Seminar on “ Conservation of Health and Hygiene by the way of Greenery and Cleanliness as ‘Swachh Bharat Abhiyan’ Initiatives by TDB College Raniganj, Burdwan, India
- Mandal, S.**, August, 2023. “Tips and Tricks in Writing Scientific Research Grants”. Two Day National Workshop on organized by Integrative Biochemistry and Immunology Laboratory, Kazi Nazrul University. 14-15 March. 2024.

### **Workshops & Conferences (International)**

- Advanced School on Complexity, Adaptation and Emergence in Marine Ecosystems, 18-27 October, 2010, at Miramare, Trieste, Italy. organized by The Abdus Salam International Centre for Theoretical Physics (**ICTP, Italy**).
- The 18<sup>th</sup> Biennial Conference of International Society for Ecological Modelling, (ISEM, 2011), 20-23 September 2011, **Beijing, China**.
- International Conference on Mathematical and Theoretical Biology (ICMTB, 2012), 23-27 January 2012, **Pune, India**.
- The 19<sup>th</sup> Biennial Conference of International Society for Ecological Modelling, (ISEM, 2013), 27-31 October, 2013, **Toulouse, France**.
- International Conference on Environmental Biology and Ecological Modelling (ICEBEM – 2014), 24-26 February, 2014, **Santiniketan, India**.
- International Conference on India Biodiversity Meet (IBM 2014), 21-23 November, 2014, ISIKolkata, **Kolkata, India**.
- The 2<sup>nd</sup> International Conference on the Theme –“Mother Earth: Save it to achieve a sustainable future for all”, 10-12 December, 2014, **Burdwan, India**
- International Conference on India Biodiversity Meet (IBM 2015), 16-18 November, 2015, ISI Kolkata, **Kolkata, India**.
- International Conference, 28 March 2017, Department of Geography, The University



of Burdwan, **Burdwan, India.**

- The 21<sup>st</sup> Biennial Conference of International Society for Ecological Modelling, (ISEM, 2017), 17-21 September 2017, Ramada Plaza, **JeJu Island, South Korea.**
- International Conference on India Biodiversity Meet (IBM 2019), 14-16 February, 2019, ISI Kolkata, **Kolkata, India.**
- The 9<sup>th</sup> International Conference Environment & Ecology (ICEE-2023), 22-24 June, 2023, **Burdwan, India.**
- Two Day International Seminar on “Unified Earth Now Becomes Diversified World”, 23-24 August, Department of Geography, Kandra Radha Kanta Kundu Mahavidyalaya, **Kandra, India.**

### **Workshops & Conferences (National)**

- National Workshop on Biodiversity and Conservation, December 9-10, 2006 organised by Centre for Environmental Studies, Visva-Bharati in collaboration with WB Renewable Energy Development Agency and West Bengal Biodiversity Board.
- Quantitative Analysis and Modelling in Animal Sciences (QAMAS), October 6-11, 2009 at Yashwantrao Chavan Academy of Development Administration, Pune, organised by IISER Pune, CCMB Hyderabad and NCL Pune.
- 2<sup>nd</sup> IMSc Complex Systems School, January 4-29, 2010 at the Institute of Mathematical Sciences, Chennai.
- Workshop and Symposium on Mathematical Ecology, December 7-14, 2010 at IISER Kolkata, India.
- National Level Conference on Climate Change: A Dagger in Disguise Affecting Biodiversity organized by Department of Zoology, T. D. B. College, Raniganj and Department of Environmental Science, University of Burdwan, 27-28 January, 2011.
- UGC Sponsored Orientation Programme – Organized by UGC-Academic Staff College, Jadavpur University. 19-11-2012 to 17-12-2012
- UGC Sponsored Refresher Programme – Organized by UGC-Academic Staff College, The University of Burdwan. 07-27 March, 2014
- One day workshop of UG Teachers Training- Organized by Department of Environmental Science, The University of Burdwan. 30 March 2015
- Short Term Course in Environmental Science- Organized by UGC-HRD Centre, The University of Burdwan. 24-30 May, 2016
- UGC National Level Seminar on “The Biggest Challenge of Green Chemistry: To Use its rule in Practice”. 8-9 October, 2015 organized by A.K.P.C College, Bengai, Hooghly, India.
- One-day Workshop on “Management of Solid & e-Waste”, 11 January, 2024, Binoy Krishna Choudhury Rural Technology Centre & CFIESD, The University of Burdwan, Burdwan, India.
- NEP 2020 Orientation & Sensitization Programme-6 under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC, 19-28 February, 2024 organized by The University of Burdwan.
- National Seminar on “Recent Advances in Animal Science (RAASVB-2024)”. 7-8 March, 2024 organized by the Department of Zoology, Siksha-Bhavana, Visva-Bharati.
- Seminar on the theme- “Land Restoration, Desertification & Drought Resilience” on

Celebration of World Environment Day, 2024 and WBPCB's Golden Jubilee Celebration, 10-11 June, 2024, Biswa Bangla Convention Centre, Kolkata.

### Ph.D./ M. Phil./ M.Sc. Thesis Supervision

Ph.D.	Thesis Title	Awarded
Dr Santu Ghosh	Study of Toxicological Dynamics of Cadmium and Lead in Mussel through Simulation Modelling	2019
Dr Ayan Mondal	Application of Extremal Principles and Stability Analysis of Natural and Domesticated Rice Field	2022
Dr Sohini Gangopadhyay	Interplay between Carbon and Nitrogen Cycles in Rice Field Ecosystem and Estimation of Greenhouse Gas Emissions through different Cultivation Practices	2023
Dr Rituparna Banerjee	Carbon Sequestration Potential of some common Tree Species in the Pristine and Industrial Area of West Bengal, India and their role in Balancing Carbon Footprint	2024
Ph.D.	Thesis Title	Registered (Ongoing)
Ms Sunanda Batyabal	Impact of Environmental Variables and Manure Application on Growth and Yield of some Commonly grown Paddy Varieties in Purba Bardhaman District.	2018
Mr. Nilanjan Das	Greenhouse Gas Emissions and Carbon Sequestration in Mangrove Ecosystem of Sundarban through a structurally dynamic Modelling approach	2021
Mr. Harisankar Ray	Carbon Sequestration Potential of Mangrove Bio-Indicator Mollusc, <i>Telescopium telescopium</i>	2023
Mr. Soumyadip Pal	Structure Dynamic Modelling of Greenhouse Gas emission in an Indian Metropolitan City	2023
M. Phil.	Thesis Title	Awarded
Miss Sunanda Batabyal	Modelling the Role of Green Patches of Urban System in Carbon Sequestration	2017
Miss Nivedita Biswas	Estimation of Carbon Mineralization and Governing Soil Factors in Rice Fields in Purba Bardhaman, India	2024
M. Sc.	Dissertation Title	Awarded
Miss Sazia Parween	Carbon Footprint of an Institution-A case study based on The University of Burdwan, West Bengal, India	2015
Mr. Mrinmoy Chandra	Categorization of Ecosystem Services and disservices of Burdwan Municipality, West Bengal, India	2015
Miss Sadhana Soren	Development of Ecotoxicological Model in Mussel ( <i>Lamellidens marginalis</i> ) using cadmium as a toxic agent	2016
Miss Rituparna Banerjee	Application of artificial neural network model for prevention of noise pollution in Burdwan city, west Bengal, India	2016

Mr. Debrup Sarkar	Life Cycle Assessment of Eastern Coalfields Limited, Raniganj, India	2016
Miss Puja Kumari	Calculating embodied Energy of the Composite Building in Golapbag Campus, The University of Burdwan-A Green Building Approach	2016
Miss Manjira Pal	Optimization Of Hexavalent Chromium Phytoremediation By The Three Aquatic Macrophytes: A Modelling Approach	2017
Mr. Anjan Pramanik	Artificial Neural Network Model of Maize plant growth under organic and inorganic fertilizer, Burdwan West Bengal	2017
Mr. Debraj Koner	Assessment Of Growth Parameters Of Maize ( <i>Zea mays</i> ) Under Inter-Cropping System	2018
Mr. Mukul Mal	Estimation of Rate Parameters of Cadmium and Lead Bioaccumulation in <i>Lamellidens marginalis</i> : A Primer for Modelling Approach	2018
Mr. Kiran Pramanik	Assessment Of Growth Parameters Of Rice ( <i>Oryza Sativa</i> ) Under System Of Rice Intensification (Sri) And Conventional Practices	2018
Miss Suparna Guha	Analysis Of Weed Diversity Of Rice Fields Under System Of Rice Intensification (Sri) And Conventional Methods	2018
Miss Anasuya Das Bairagya	Study Of The Effect Of Legume Plant ( <i>Vigna unguiculata</i> ) On Soil Organic Carbon Dynamics And Change In Soil Properties	2019
Miss Sayanti Das	Role Of Physico- Chemical Factors Of Soil On Decomposition Rates Of Leaf Litter Of Some Common Tree Species	2019
Mr. Subhajit Ghosh	Nitrogen Addition By Legume Plants To Soil: A Review	2019
Miss Riya Sen	Role Of Nitrogen Utilization Of Rice ( <i>Oryza Sativa</i> L.) Plant Growth With Reference To System Of Rice Intensification (Sri) And Conventional Practices	2019
Mr Elia I. N. Mvula	Assessment Of Growth Parameters Of Rice ( <i>Oryza Sativa</i> ) Under System Of Rice Intensification (Sri) And Conventional Practices	2020
Miss Banya Koner	A Brief Study On Litter Decomposition And Its Associating Factos In Burdwan, West Bengal, India	2020
Miss Nivedita Biswas	Estimation Of Carbon Mineralization And Governing Soil Factors In Rice Fields In Purba Bardhaman, India	2020
Mr. Mohit Roy	Influence of Physio-chemical Parameters on Hydroxylamine (H <sub>3</sub> NO) Level in Rice Field and Forest in India	2021
Miss Simpa Pan	A Comparative Assessment of Soil and Plant Parameters across Contrasting Ecosystem— A Forest Community and Urban Community Affected by Industrial Activity	2021
Miss Nisha Gupta	Passive carbon content in paddy fields and humification process under different paddy culture techniques	2022
Miss Debarati Pal	Greenhouse gas emissions in erosion prone zones of Sundarban	2022

Miss Sudeshna Chell	Effect of manure combinations on rice growth and soil health	2022
Miss Seema Mandi	Variation in soil and plant characteristics of a pristine and disturbed plant community of urban area	2022
Miss Reshmi Rakshit	Impact Of Physicochemical Factors On The Distribution And Abundance Of The Mangrove Snail <i>Cerithidea cingulata</i> (Gmelin, 1791) In The Sundarban Mangrove Ecosystem	2023
Mr. Suman Acharya	Analysis Of Sensitive Parameters For Greenhouse Gas Emissions In The Harbour Area Of Sundarban Mangrove Ecosystem, India	2023
Miss Sayantani Bhattacharya	A Comparative Study Of Soil Properties Between Undisturbed And Reclaimed Forests	2023
Miss Mantu Bhandary	Urease Activity And Soil Physicochemical Properties Of Some Common Rice Varieties During Rabi Cultivation	2023

## Expedition

Participant from India in 3<sup>rd</sup> Winter Expedition to Arctic at International Arctic Research and Monitoring Station at 79°N, Ny-Alesund, Svalbard, **Norway** (19 March 2010 to 22 April 2010) working on project entitled-“Time series and dynamic modeling of phytoplankton organic carbon cycling at the marginal ice edge zone”.

## Other Activities

- Acted as **Joint Secretary** in UGC Sponsored National Level Conference on Climate Change A Dagger in Disguise Affecting Biodiversity organized by Department of Zoology, T. D. B. College, Raniganj and Department of Environmental Science, University of Burdwan, 27-28 January, 2011.
- Acted as **Organizing Secretary** in -“Current trends in the research on Aquatic Ecosystems- Application of Ecological Modelling”, Organized by the Department of Zoology, TDB College, Raniganj. 20<sup>th</sup> July 2013. Speakers: Prof. Sovan Lek, University of Toulouse, France & Prof. Santanu Ray, Visva-Bharati University, India.
- Acted as **Judge** at State level competitions in Bongiyo Bijnan Utsav (West Bengal Science Fair), 19<sup>th</sup> February 2015, Rampurhat College, Birbhum
- Acted as **Treasurer** in the The 2<sup>nd</sup> International Conference on the Theme – “Mother Earth: Save it to achieve a sustainable future for all”, 10-12 December, 2014, **Burdwan, India**
- Acted as **Session Chairperson** in UGC National Level Seminar on “The Biggest Challenge of Green Chemistry: To Use its rule in Practice”. 8-9 October, 2015 organized by A.K.P.C College, Bengai, Hooghly, India
- Acted as **Judge** at District Student Youth Science Fair From 24-09-2019 to 25-09-2019, Office of the District Youth Office, Purba Bardhaman

- Acted as **Reviewer of Poster Session** at 4<sup>th</sup> Regional Science and Technology Congress (Western Region), 2019, 9-10, December 2019, The University of Burdwan and DSTBT
- Acted as **Judge and Honorable Guest** at Go-Green, An online Wall Magazine Competition, IEM, Kolkata

### **Administrative Responsibilities**

- **Assistant Teachers Council Secretary** (Aug 2011 – July 2014), Trivenidevi Bhalotia College, P. O. Raniganj, Dist. Burdwan, West Bengal. India. Pin- 713347
- **University Confidential Assignments** – Examiner/Question Setter (Theory and Practical Examination of Undergraduates, B. Sc. Zoology (Hons.) and B.Sc. Zoology Pass Courses under The University of Burdwan, Visva-Bharati University
- **Member**-Academic Committee, (July 2012 –July 2014), Trivenidevi Bhalotia College, P. O. Raniganj, Dist. Burdwan, West Bengal. India. Pin- 713347
- **Convener** – Computer and Internet Development Committee (July 2013 – Present), Trivenidevi Bhalotia College, P. O. Raniganj, Dist. Burdwan, West Bengal. India. Pin-713347
- **University Confidential Assignments** – Examiner/Question Setter (Theory and Practical Examination of Post Graduate Courses (M. Sc and M. Phil) in Environmental Science under The University of Burdwan, Visva-Bharati University
- **Member**- Committee for Biodiversity Heritage Site, The University of Burdwan
- **Member**- PGBS and UGBS, The University of Burdwan
- **Member**-UGBS, Environmental Science, Kazi Nazrul University, Asansol, India Pin-713340
- **Teacher-in-Charge (Head of the Department)** – (April 2016-August 2018), Department of Environmental Science, The University of Burdwan, Pin 713104

### **Review Assignments (International and National Peer Reviewed Journals)**

1. Ecological Modelling, Elsevier
2. Scientific Reports, Springer Nature
3. The Science of the Total Environment, Elsevier
4. Ecological Informatics, Elsevier
5. Ecological Indicators, Elsevier
6. Environmental Science and Pollution Research, Springer
7. Ecological Frontiers, Elsevier
8. Frontiers Ecology and Evolution, Frontiers



9. Regional Studies in Marine Science, Elsevier
10. Frontiers in Sustainable Food Systems, Frontiers
11. Marine Coast and Shelf Science, Elsevier
12. Biocatalysis and Agricultural Biotechnology, Springer
13. Applied Biochemistry and Biotechnology, Springer
14. Current Science, India

## **Memberships**

Member of Association of Polar Early Career Scientists (APECS), **Tromso, Norway**  
([www.apecs.is](http://www.apecs.is))

Member of International Society for Ecological Modelling (ISEM), **USA** ([www.isemna.org](http://www.isemna.org))