

CURRICULUM VITAE



1. NAME : **DR. SUBHAS CHANDRA SANTRA**
Professor

2. PROFESSION AND DESIGNATION:

:Teaching and Research,
Senior Faculty member & professor, Department of
Environmental Science, University of Kalyani.
Coordinator, ENVIS Centre on Environmental Biotechnology.

3. ADDRESS FOR COMMUNICATION:

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4. DATE OF BIRTH :19th December, 1953

5. AREA OF SPECIALISATION :Limnology, Phycology , Ecology, Bioremediation and Toxicology.

6. KEY QUALIFICATION : Teaching -

Faculty member for the post-graduate course on Environmental Science, Botany, Biochemistry, Biophysics, Biotechnology, Microbiology and Business Administration

Research -

1972 – 1978: Worked on various aspects of fresh water phycology, Limnology in Sub-Himalayan region (including Taxonomy of Blue Greens).

1978 – 1985: Worked on river phycology and marine algae (Taxonomical accounts).

1985 – 1992: Worked on Aerophycology, BGA in rice field system and ecotoxicological assessment using BGA.

1992 – 1997: Investigation on various aspects of Bio monitoring of Environmental Quality Environmental Impact Assessment.

1995 - 1998: Investigation on arsenic problems in West Bengal.

1999 - Till now: Bioremediation, Toxicological aspects, Mangrove ecology,

Specialised studies on Arsenic problems in West Bengal

Biological aspects of arsenic removal from contaminated water; Dietary influence of arsenicosis; Simple chemical removal process at village level.

- 7. EDUCATIONAL QUALIFICATIONS** : M.Sc. & Ph.D. in Botany (University of Calcutta), PRS (Sc.) University of Calcutta.
- 8. HONOURS, AWARDS & NOMINATION** : Premchand Roychand Fellowship (University of Calcutta), 1982
Austrian Govt. Fellowship, 1985.
DAD Fellowship, 1990.
IVP Fellowship, USA, 1993.
DST visiting Fellowship, 1996.
- 9. TRAVEL ABROAD** : Visited various laboratories in Britain, France, Sweden, Germany, USA, Bangladesh on assignment.
- 10. Ph.D. SUPERVISION** : **33** students awarded Ph.D. on Ecology / Environmental Science and **8** students working on various projects.
30 students completed M. Phil. dissertation on various aspects during 1991 – 1997.
10 students completed M. Phil. dissertation on various aspects from 2005.
65 students completed M.Sc. dissertation,
- 11. PUBLICATIONS** : **182** research papers and **Twelve** books.
EIA report of over **30** projects of different kinds
- 12. MEMBERSHIP OF SCIENTIFIC & INSTITUTIONAL BODIES:**
- a) Life member* : Indian Science Congress Association.
Indian Biological Association.
National Botanical society.
Indian Aerobiological Society.
Scavenger & Phykos.
- b) Fellow (Hony)* : Indian Biological Association.
DST (Visiting Fellow 1997-98)
Fellow, West Bengal Academy of Science & Technology
- c) Expert member* : W.B. State Pollution Control Board.
- d) Others* : Examiner, Moderator, Reviewer of different Universities of India & outside (PG & Ph.D. Programme).

PUBLICATIONS

A. Research papers:

1. Zygnemataceae of Eastern Himalayas I: Spirogyra, **S. C. Santra** and T. K. Adhya, 1973, Bull. Bot. Surv. Ind., 15 (3 & 4), 281-282.
2. Zygnemataceae of Eastern Himalayas II: Spirogyra Link, **S. C. Santra** and T. K. Adhya, 1976, Bull. Bot. Soc. Bengal, 30, 47-49.
3. Vancheriaceae of Eastern Himalayas (India), **S. C. Santra** and T. K. Adhya, 1976, Nova Hedwigia, XXVII, 655-659.
4. Effect of polyene antibiotic. A-435 on micro morphology of filamentous fungi, **S. C. Santra** and A. L. Chandra, 1976, Hindusthan Anti. Bull., 18 (3 & 4), 103-105.
5. Sirocladium himalayaensis- A new species from India, **S. C. Santra** and T. K. Adhya, 1977, Phykos, 16 (1&2), 65-68.
6. *Draparnaldiopsis indica* Bhradwaa- A new record from West Bengal, T. K. Adhya and **S. C. Santra**, 1977, Sci. and Cult., 43, 399.
7. Shifting cultivation, in current Trends in Indian Environment (Ed. Desh Bandhu), **S. C. Santra**, 1977, Today and Tomorrow Publ. New Delhi, 135-140.
8. Wild life conservation - Legal and Institutional Arrangement, in Managing the Environment, **S. C. Santra**, 1978, Indian Environment Society, New Delhi, 143-148.
9. Environmental Polution, **S. C. Santra**, 1979, Proceedings National Symposium on Land and Water Management in Indus Basin (India), Vol. II, Ludhiana, India, 619-623.
10. Cytological effects of polyene antibiotic A-435, **S. C. Santra** and A. L. Chanda, 1979, Microbial. Bull., 3, 18.
11. Development of Tibetan Plant Medicine, S. Lama, **S. C. Santra** and A. L. Chanda, 1979, Sci. and Cult., 45 (7), 262-265.
12. Ecological studies on *Bidens pilosa* L.: Effect of light, temperature, salt and different extracts on seed germination and seedling growth, **S. C. Santra**, T. K. Adhya and D. K. Desarkar, 1981, Tropical Ecology, 22 (2), 162-169.
13. Indoor airborne fungal spore flora of Calcutta, West Bengal, **S. C. Santra** and S, Chanda, 1981, Proc. Nat. Con. Environmental Biopollution, 45-48.
14. A new leaf spot disease of lemon grass, **S. C. Santra**, 1991, Phytopath, 34 (4), 525.
15. Chemical and biological studies of polyenes- A review Trans., **S. C. Santra** and A. L. Chandra, 1981, Bose Res. Inst., 44 (3) 65-73.
16. Corticolous lichens on Mango tree (*Mangifera indica* L.) of West Bengal, M. Bhowmik, T. K. Adhya and **S. C. Santra**, N. V. M. Patrika, 16 (1-2), 43 - 44.
17. Contribution to the Cyanophyceae of Murshidabad, T. K. Pal and **S. C. Santra**, 1982, Phykos., 21, 150-152.
18. Diatoms of Senchal Lake, Darjeeling, West Bengal, P. R. Das and **S. C. Santra**, 1982, Phykos., 21, 99.
19. Microbial Pollution, **S.C. Santra**, 1982, IGA Review, 7, 101-104.

20. Biochemical localisation of starch bodies around infected region in coast infected potato plants, **S. C. Santra**, 1983, Ind. Phytopath., 36 (2), 335-356.
21. Bryophytic flora of Sikkim: *Calobrium blumi* Nees - A new record from the Sikkim Himalayas, **S. C. Santra**, 1983, Sci. And Cult., 49, 57-58.
22. Polyene induced morphological changes in filamentous fungi, **S. C. Santra** and A. L. Chandra, 1983, J. Ind. Microbial. Soc., 139-142.
23. Application of Scanning Electron Microscope (SEM) technique in the study of oral microflora of man in tropics, R. Sen and **S. C. Santra**, 1984, Proc. Intl. Symp. on Electron Microscopy, Singapore, 397-398.
24. Traffic Noise level in Calcutta, in seminar on Calcutta beyond 2000 A.D., B. Roy, **S. C. Santra**, S. Chanda and B.Mitra, 1984, Sci. and cult., 50, 62-64.
25. Role of Microbes in Air Pollution, **S. C. Santra**, 1984, Newsletter, EPCO, Bhopal, India, 3, 1.
26. New additions to algal flora of Murshidabad, West Bengal, T. K. Pal and **S. C. Santra**, 1984, Phykos, 23 (1&2), 139-141.
27. Algal flora of Sikkim Himalayas I.A. Contribution to our knowledge of blue-green algae of North East Sikkim (India) **S. C. Santra**, 1984, J. Econ. Tax. Bot. 5 (5), 1209-1219.
28. Studies on the effect of polluted environment on plants in the industrial wasteland of southern West Bengal, India, I: Anatomical changes, A. K. Sahu and **S. C. Santra**, 1985, Res. J. Plant and Environment 2(1) : 39-41.
29. Blue-green algal flora of 24 Paraganas, West Bengal (India) , H. Maity and **S. C. Santra**, 1985, Phykos, 24, 46-51.
30. A note on *Enteromorpha tubulosa* in brakish mixed sewage feed fisheries from Sunderban West Bengal, K. R. Naskar and **S. C. Santra** , 1985, J. Indian Soc. Coastal Agric. Res. 5 (2), 471-472.
31. Algal flora of Midnapore, West Bengal (India), U. Pal and **S. C. Santra**, 1985, Phykos, 24, 12-17.
32. Phytological studies of polyene antibiotic A-435, **S. C. Santra** and A. L. Chandra, 1985, Ind. J. Mycol. Res. 23 (2), 69-72.
33. Floristic composition of industrial Wasteland in Southern Bengal , India, A. K. Sahu and **S. C. Santra**, 1985, J. Econ. Tax. Bot., 8 (2), 301-306.
34. Leaf inhabiting blue green algal flora of West Bengal, U. Pal and **S. C. Santra**, 1986, Ind. Journal of Botany, 9 (2), 176-176.
35. Studies on *Enteromorpha tubulosa* in brakish mixed sewage fed fisheries from Sunderbans, West Bengal, K. R. Naskar and **S. C. Santra**, 1986, Sci. and Cult. 32 (6), 210.
36. Algal flora of Murshidabad district, West Bengal, I-A survey from Berhampore and adjoining areas, T. K. Pal, T. K. Adhya and **S. C. Santra**, 1986, Bull. Bot. Soc. Bengal, 40, 30-43.
37. Importance of Phytoplankton study in the Assessment of water quality - a case study from Bhagirathi - Hooghly river basin, U. C. Pal, G. Bandopadhyaya and **S. C. Santra**, 1986, Proceedings, All India Seminar on Water Quality in and around Urban ecosystems and their management (Eds. K. S. Unni.), 1- 4.

38. Air pollution, Plants and Bio-monitoring of air pollutants, **S. C. Santra**, 1987, *Intra Science*, 2 (4), 107-116.
39. Some new records of Charophytes from West Bengal, U. C. Pal and **S. C. Santra**, 1987, *Indian Biol.*, XIX (2) 25-29.
40. Trends in algal research in India, **S. C. Santra**, 1987. *Proc of the Nat. Seminar on recent trends in plant Science research* (Eds. Bhattacharya), 184-187.
41. Algal flora of Saline habitats of Sunderbans, West Bengal and its possible role in reclamation of soil, H. Maity, G. Bandopadhyay and, **S. C. Santra**, 1987, *J. Indian Soc. Coastal Agric. Res.* 5 (1), 325-331.
42. Utilisation and Evaluation of efficacy of *Azolla-Anabena* system for crops in West Dinajpore, D. Desarkar, S. Dutta and **S. C. Santra**, 1987, *J, AASM Biophys. Res. Cent. I*, 39-40.
43. Some new additions of some algal flora of West Bengal, U. C. Pal and , **S. C. Santra**, 1987, *J. Indian Bot. Soc.*, 66, 366-369.
44. The changing Environment and responses of the living system, **S. C. Santra**, 1987, *IGA Review*, 8, 1-4.
45. Algal Allergy, **S. C. Santra**, 1987 in *Atmospheric Biopollution* (Eds. N. Chandra), *Env. Pub.* , 159-166.
46. Airborne algae of Calcutta Metropolis, **S. C. Santra**, 1987, *Phykos*, 71-74.
47. Plant Biochemical responses and Biomonitoring of air pollution, A. K. Sahu and, **S. C. Santra**, 1988, in *Environmental Management and Planning*, (Eds. A. K. Sen), *Wiley Eastern Public.*, 285-290.
48. Response of Trichome and Stoma to polluted environment in *Eupatorium odoratum* Linn., A. K. Sahu and, **S. C. Santra**, 1988, *Res. J. Pl. Environ.*, 4 (1), 65-68.
49. Marine algae of Mangrove delta region of West Bengal, India: Benthic forms, **S. C. Santra** and U. C. Pal, 1988, *Indian Biologists* XX (2), 31-41.
50. Some new records of Indian Trentepohliaceae, **S. C. Santra**, 1988, *J. Indian Bot. Soc.*, 67,65-66.
51. A check list of algal flora of Sundarban delta of West Bengal, India, U. C. Pal, K. R. Naskar and **S. C. Santra**, 1988, *Phykos.*, 27, 48-53.
52. Tree and Pollution abatement, **S. C. Santra**, 1988, *IGA Riview*, 9, 1-3.
53. Blue-green algae in saline habitats of West Bengal: A systematic account, **S. C. Santra**, U. C. Pal and H. Maity, 1988, *Biol. Mem.*, 14(1), 81-108.
54. Physiological and biochemical changes in Yeast resistant to polyene antibiotic A-453, **S. C. Santra** and A. L. Chandra, 1988, *J. Microb. Biotech.*, 3 (1) 10-17.
55. Soil-water-plant interrelationship and their role in sustainable Eco-development, **S. C. Santra**, 1989, In *Handbook of Ecodevelopment*, *School of Fundamental Research*, 50-53.
56. Phytoplanktons of Bhagirathi-Hoogly Estuary: An illustrative accounts, **S. C. Santra**, U. C. Pal, T. M. Das, S. Sen, Rita Saha, S. Dutta and P. Ghosh Dastidar, 1989, *Indian Biologist*, XXI (1), 1-27.
57. Industrial air pollution and its effect on plant's foliar traits: A case study from West Bengal, India, A. K. Sahu and S. C. Santra, 1989, *Feddes Repertorium*, 100 (34). 177-186.

58. Studied on phytosociology and physiological variations of plants in the vicinity of polluted habitat, Kuntighat, West Bengal, A. K. Sahu and **S. C. Santra**, 1989, *Poll. Res.*, 8(1), 15-19.
59. Airborne fungal flora in indoor environments of Calcutta Metropolis, India, **S. C. Santra** and Sunimal Chanda, 1989, *Grana*, 28, 141-145.
60. Energy plantation in wasteland - feasibility of short rotation forestry programme, **S. C. Santra**, 1989, *Proceedings of National Workshop on Economics of Energy plantation* (Eds. Mathur).
61. Conservation of Coastal Resources of India - A future strategies, **S. C. Santra**, 1989, *Proceedings of the 1st International Seminar on "Coastal Environment in Asian Region - Potentialities & problems*, 53-58.
62. Algae of Midnapore, West Bengal II. Bacillariophyceae, U. C. Pal and **S. C. Santra**, 1990, *Phykos*, 29: 74-82.
63. Fresh water algae of West Bengal, **S. C. Santra**, 1990, In *A Prespective in Phycology* (Ed. Rajarow), Prof. M. O. P. Iyenger Cenetenary Celebration volume, Today & Tomorrow's Printers & Publishers, New Delhi-110005, 189-194.
64. Algal flora of mine Environment II Chromite and Iron ore mines, **S. C. Santra** and U. C. Pal, 1990, *Res. J. Pl. Environ.* 6(1), 19-26.
65. Algae of midnapore, West Bengal II. Bacillariopgyceae, **S. C. Santra** and U. C. Pal, 1990, *Phykos*, 29(1&2): 73-81.
66. Studies on micromorphology of leaf in relation to mine environment, B. Saha, S. Chakraborty, P. K. Mukherjee and **S. C. Santra**, 1990, *Indian Biologist*, Calcutta, XXII (1), 12-16.
67. Structure of plant community around the Industrial complex in West Bengal, India, A. K. Sahu and **S. C. Santra**, 1990, *Mendal*, Patna, 7(1), 117-124.
68. Biological method of reclamation of Wastelands in mining areas - A case study, B. Saha, C. Chakraborty, P. K. Mukherjee and **S. C. Santra**, 1990, In: *Proceedings, National Ecological Development of Wasteland*, SRF, Calcutta, 123 -127.
69. Environmental Deterioration - A case study in Ajodhya Hills, Purulia Dist., West Bengal, D. K. Khan, **S. C. Santra**, D. Das, C. Mukhopadhyay, S. Dan and R. Pal, 1990, In: *Proceedings, National Ecological Development of Waste land*, SRF, Calcutta, 133 -135.
70. Air Pollutants and Aeroallergens Interactions, **S. C. Santra**, S. Gupta and Sunirmal Chanda, 1991, *Grana*, 30: 63 - 66.
71. Four New Taxa from West Bengal, **S. C. Santra** and U. C. Pal, 1991, *Phykos*, 30:1 & 2, 75 - 80.
72. Rice field blue green algae (Cyanobacteria) and its utilisation prospect as biofertilizer in West Bengal, India, **S. C. Santra**, 1992, *Proc. Natl. Symp. Cyanobacterial Nitrogen Fixation*, (Ed. B.D. Kaushik), 386 - 389.
73. Air quality monitoring by Lichens - A case study in Calcutta, India, **S. C. Santra** and S. G. Mitra, 1992, *Indian J. Aerobiol. Spl. Vol.* 197 - 200.
74. Air pollution biomonitoring by Lichens - A case study in Haldia Township, S. G. Mitra, **S. C. Santra** and K. N. Roychoudhury, 1992, *Poll. Res. II (I)*: 43 - 48.

75. An approach to future *Spirulina* research, **S. C. Santra**, 1992, Proceedings of the M.C.R.C., Madras, India.
76. Studies on the effect of copper and cadmium ions on nitrogenase activity of Cyanobacteria, *Westiellopsis prolifica* Janet, S. Dan and **S. C. Santra**, 1992, Poll. Res. II (2): 85 - 87.
77. Plant regeneration in *Gmelina arborea* Linn. Through tissue - I. Selection of media and organogenesis, C. mukhopadhyay, **S. C. Santra** and P. D. Ghosh, 1992, Proceedings of the National Symposium on 'Plant Sciences in the Nineties, Kalyani University, 1991, 5465 - 470.
78. Phenological studies on aquatic macrophytic plants of lower Gangetic Delta, West Bengal, India, S. K. Ghosh, **S. C. Santra** and P. K. Mukherjee, 1993, Feddes Repertorium, 104 (1 - 2), 93 - 111.
79. Strategies for plant adaptation in saline habitats - I: Foliar anatomical changes, A. Brahma and **S. C. Santra**, 1993, Indian Biologist, XXV, I., 12 - 17.
80. Marine phytoplankton of the mangrove delta region of West Bengal, India, **S. C. Santra**, U. C. Pal and A. Choudhury, J. Mar. Biol. Ass. India, 1991. 33 (1 & 2), 292 - 307.
81. Algal flora of Midnapore III Desmidiaceae, U. C. Pal and **S. C. Santra**, 1993, Phytos., 32 (1 & 2).
82. Ecology of Hooghly estuary, West Bengal (India), **S. C. Santra**, 1994, in Algal Ecology: An overview (Kargupta & Siddiqui, E.N, Eds.), International Book Distributor, Dehradun, India, 293 - 318.
83. Ecotoxicological studies in aquatic algae: a review, **S. C. Santra** and S. Dan, 1994, In Advances in Ecology & Environmental Science. Eds. P. C. Mishra *et al.* Ashish Publishing House, New Delhi, 625-651.
84. Studies on productivity of sewage fed pond ecosystem, S. C. Deb, K. K. Das and **S. C. Santra**, 1994, J. Env. Biol. 3 (1), 33 - 42.
85. Application of ecological principles in environmental protection in mining areas, **S. C. Santra**, 1994. In Minerals & Ecology (Banerjee sp. Ed.) Oxford and IBH Publication Co. Calcutta, 411 - 416.
86. Plankton ecology of sewage fed aquatic system in Calcutta, S. C. Deb and **S. C. Santra**, 1995. In Environment: Change and management (Mohanty R.C. Ed.), Kamalraj Enterprises, Delhi, 75 - 89.
87. Green belt for pollution abatement, **S. C. Santra**, 1995. In Advances in Environmental Science and Technology (Trivedy, R. K., Ed.), Ashish Publishing House, New Delhi, 283 - 295.
88. Domestic and municipal wastewater treatment by some common tropical aquatic macrophytes, S. K. Ghosh and **S. C. Santra**, 1996, Indian Biologist, XXVIII, (1), 47 - 58.
89. Impact of the reed vegetation of wetland in the prospective of economic gain of rural population - a case study in West Bengal, India, S. Ghosh and **S. C. Santra**, 1995, Asian Wetland News., 8, (1), 10 - 11.
90. Environmental hazards due to mining activities - a case study with reference to coal mining, **S. C. Santra**, 1995. In Modern trends in Environmental Biology, (Raha, Biswas and Chakraborti eds.), Arihant Publication House, Jaipur, 22 -24.

91. Non-timber products (NTFP) resource of Jalpaiguri Division (West Bengal) and its current status of utilisation: a brief resume, Moumita Roy and **S. C. Santra**, 1995, Ecol. Env. & Cons. 1 (1 - 4), 101 - 107.
92. Limnological characterisation of beels with reference to fish yield in tropics, G. C. Rana, K. K. Sengupta and **S. C. Santra**, 1996, J. Inland Fish Soc.India, 26 (1), 59 - 66.
93. Effect of heavy metal on chlorophyll content and nitrogenase activity of *Azolla pinnata* R. Br. S. Gangopadhyaya and **S. C. Santra**, 1996, Pollution Res., 15 (1), 95 - 97.
94. A practical approach to water pollution control through ecologically balanced wastewater management: a case study from Calcutta, India, S. C. Deb, J. S. Pandey and **S. C. Santra**, 1996, In Assessment of water pollution (Mishra, S.R., Ed.) A.P.H. Publishing Corporation, New Delhi, 63 - 79.
95. Changes in microbial population in rice field induced by fertilizer application, S. Mondol and **S. C. Santra**, 1996, Indian Biologist, XXVIII, 64 - 68.
96. Statistical Modules in Road Traffic Noise Analysis: A case study in Calcutta, India, Prasun Das, Debashis Chakraborty and **Subhas Chandra Santra**, 1996, In proceedings of Sydney International Stastical Congress, Sydney-Australia, July 8-12, 1996, Pp 682-685.
97. Status of road traffic noise in Calcutta metropolis, India, Debashish Chakraborty, **S. C. Santra et al.**, 1997, J. Acoust. Soc. Am. 101 (2), 943 - 949.
98. Bioaccumulation of metals in fishes: an in vivo experimental study of sewage fed ecosystem, S. C. Deb and **S. C. Santra**, 1997, The Environmentalist, 17, 27 - 32.
99. Economic benefits of Wetland vegetation for rural populations in West Bengal, India.S. K. Ghosh and **S. C. Santra**, 1997 Proceedings of International Conference on Wetlands and Development, Kualalumpur, Entitled Wetlands, biodiversity and Development (Ed.Win Gieseue).119-131.
- 100.NTFP collection preservation and marketing prospects and problems- a case study in north bengal region (W.B), Moumita Roy and **S. C. Santra**, 1997. Proc. Annual Meeting RCNAEB; JU. 80-87.
- 101.Perspective of Coastal zone planning and management in Digha coast-**S. C. Santra** and D. K. Khan,1997.20 (2), 156-165.
- 102.Water quality, plankton and periphyton assessment in different water bodies in West Bengal (India), S. Majumdar, A. Sengupta, K. Pati, K. K. Sengupta and **S. C. Santra**, 1997. In changing perspectives of Indian fisheries (Vays & Sinha eds.) IFSI, Barrackpore, 187-190.
- 103.In vitro clonal propagation of *Gliricidea sepium* through tissue culture. C. Mukhopadhyay, **S. C Santra** and P. D. Ghosh, 1996. Plant tissue culture, 6 (1), 41-49.
- 104.Limnological characterstics of beels with reference to fish yield in Tropics, G. C. Rana. K. K. Sengupta and **S. C. Santra**, 1996, J. Inland Fish, Soc. India, 28(1) 59 - 66.
- 105.Studies on the effectiveness of different micronutrient formations of planktonic diversity and growth, G. C. Rana. K. K. Sengupta and **S. C. Santra**, 1996, In current & Emerging trends in Aquaculture, Thomas, P. C. (Ed.) Daya Publishing House, New Delhi-35, 57 - 64.
106. Bioaccumulation of metals in fishes: an in-vivo experimental study of sewage feed ecosystem, S. C. Deb and **S. C. Santra**, 1997, The Environmentalist, 17; 27-32.

107. Bioaccumulation of Metals in Sewage feed Aquatic System – a case study from Calcutta (India), S. C. Deb and **S. C. Santra**, 1997, Int. J. Env. Studies, 52; 117-126.
108. Histochemical and cytophotometric examination of DNA, RNA and proteins in the *in vitro* organogenesis of four timber plant species, C. Mukhopadhaya, **S. C. Santra** and P. D. Ghosh, 1998, Prespective in cytology and genetics (Manna, G. K. & Roy, S. C. Eds.) AICCG pub. Kalyani University, 527 - 534.
109. Mangrove lichens, **S. C. Santra**, 1998, Indian Biologist, XXX, 2, 76 - 78.
110. Urban traffic noise abatement with vegetational barriers, **S. C. Santra**, D. Chakraborty and B. Roy, 1998, Journal Acoustic Soc. Ind. XXVI (3 & 4), 1 - 10
111. Survey of Community annoyance due to traffic noise exposure in Calcutta metropolis, D. Chakraborty, **S. C. Santra** and B. C. Roy, 1998, Journal Acoustic Soc. Ind. XXVI (3 & 4), 39 - 43.
112. Heavy metal accumulation in fish: An assessment in sewage fed aquafarm of East Calcutta, India, **S. C. Santra** and N. Bano, 1998. In Proc. National Seminar on Environmental Biology (Aditya & Halder eds.) Daya Pub. House, New Delhi, 35-38.
113. Phytosuccession in coastal wetland: A case study from Mangrove reclaimed areas of Sundarbans, West Bengal, India, S. K. Ghosh and **S. C. Santra**, 1999, In Sundarban Mangal (Guabaskhi, Sanyal & Naskar Eds.), Nayaprakash Calcutta, 325 - 339.
114. Phenological studies of Tropical Mangroves-A case study, A. Brahma and **S. C. Santra**, 1999, In Indian Sunderban Mangal (Guhabakshi, Sanyal & Naskar eds.) Nayaprakash, Calcutta, 317-324.
115. Plankton composition and population diversity of the Sundarbans Mangrove estuary of West Bengal, India, A Banarjee and **S. C. Santra**, 1999, In Sundarban Mangal (Guabaskhi, Sanyal & Naskar Eds.) Calcutta, 340 - 348.
116. Biomonitoring of terrestrial ecosystems, **S. C. Santra**, 1999. In: Manual Environmental Impact assessment, (Ghose, Alfred and Jonathan, ZSI, Calcutta, eds.) 215-221.
117. Biomonitoring of fresh water ecosystems, **S. C. Santra**, 1999. In: Manual Environmental Impact assessment, (Ghose, Alfred and Jonathan, ZSI, Calcutta, eds.) 224-232.
118. Vegetation and wild life impact analysis, **S. C. Santra**, 1999. In: Manual Environmental Impact assessment, (Ghose, Alfred and Jonathan, ZSI, Calcutta, eds.) 278-292.
119. Environmental management plan – a case study reclamation of coalmine area by revegetation - **S. C. Santra**, 1999, In Manual Environmental Impact assessment, (Ghose, Alfred and Jonathan, ZSI, Calcutta, eds.) 293-299.
120. Mosquito vector diversity in Calcutta with special reference to malaria, S. Bhattacharya, **S. C. Santra** and D. Gupta Biswas, 1999, Bull. RGKMC, 4, 4,19-30.
121. Chromium in environment – a case study around tannery complex in East Calcutta region, I. Ghosh, R. Chakraborty, **S. C. Santra** and S. D. Kulkarni, 1999, JILTA, XLIX, 11, 675-678.
122. Polycyclic aromatic hydrocarbons (PAHs) in fish organ and their probable toxic effects, S. C. Deb, T. Fukushima and **S. C. Santra**, 1999, In Silver Jubilee Celebration (1974-1999) commemoration volume, Centre for Man and Environment, Calcutta, India, P-157 - 164.

123. Heavy metal levels in marketable vegetables and fishes in Calcutta Metropolitan Area, India, J. K. Biswas and **S. C. Santra**, 2000, In Waste recycling and resource management in the developing World, (Jana, Banerjee, Guterstam and Hibbs Eds.) 371 - 376.
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125. Certain aspects of Ecological preference of planktons of Sundarban Ecology, West Bengal, India, Ananda Banarjee and **S. C. Santra**, 1999, J. Marine Biol. Asso. Of India, 41, 107-110.
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178. Phytoremediation - A Novel Option for Pollution Abatement, **S. C. Santra**, In: *Environment : Issues and Approach*, (Eds. A. Mukhopadhyay and S. Ghosh), University of Kolkata, Kolkata, 89-93, 2006.
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181. Environmental Biotechnology- A Critical Appraisal, **S. C. Santra**, A. C. Samal, J. P. Maity and S. Kar, 2007, In: *New Frontiers of Environmental Biotechnology*, Eds. S. C. Santra, Published: ENVIS Centre on Environmental Biotechnology, University of Kalyani.
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B. Books:

1. Objective Model of Botany: **S. C. Santra**, S. Maji & J. K. Sikdar, 1987, Kalyani Publisher, Ludhiana.
2. Modern Approach to Practical Botany: **S. C. Santra**, S. Maji & J. K. Sikdar, 1988, Ratnabali, Calcutta.
3. College Botany Practical Vol. I: **S. C. Santra**, T. P. Chatterjee & A. P. Das, 1990, New Central Book Agency, Calcutta.
4. College Botany Practical Vol. II: **S. C. Santra**, T. P. Chatterjee & A. P. Das, 1992, New Central Book Agency, Calcutta.
5. Biology of Rice Field Algae; **S. C. Santra**, 1993, Daya Publishing House, New Delhi.
6. Ecology: Basic and Applied: **S.C.Santra**, 1994, M. D. Publication, New Delhi.
7. Lichen: Subhas Chandra Santra, 1996, West Bengal State Book Board. Kolkata.
8. Paribesh Bidya: T. M. Das and **S. C. Santra**, 2000, Saibya , Calcutta.
9. Envirmental Science: **S. C. Santra**, 2001, New Central Book Agency, Calcutta.
10. Forest of North Bengal: **S. C. Santra** and M. Roy, 2001, Maya Publication, New Delhi.
11. Recent Environmental changes –It’s impact on Health, Agriculture and Ecosystem, (Proceedings) **S. C. Santra** Ed., University of Kalyani, West Bengal.
12. Envirmental Science: **S. C. Santra**, 2005, (2nd Edition) New Central Book Agency, Calcutta.
13. New Frontiers of Environmental Biotechnology, 2007, Eds. S. C. Santra, Published: ENVIS Centre on Environmental Biotechnology, University of Kalyani.

Environmental Impact Assessments and Special reports-

1. Studies on coastal erosion and sand movement
2. In Digha Beach, Midnapur District, West Bengal. Sponsor: Department of Environment, Govt. of West Bengal (1985 – 1987).
3. Preparation of detailed project reports for rural water supply under the Technology Mission on Drinking water in villages and related water management in Palamau District (Bihar), Bardhaman District (West Bengal) and Sahebgang District (Bihar). Sponsor: Public Health Engineering Department, Govt. of Bihar and CAPART, Govt. of India.

4. Environmental Impact Assessment and formulation of Environmental Management Plan for the proposed Chapri – Sidhes – War copper mine and concentrator plant. Sponsor: Hindusthan Copper Limited (1990 – 1992).
5. Ambient air quality, meteorological and noise level monitoring for proposed gas based thermal power project of national thermal power corporation limited at Agartala. Sponsor: M/s Ghosh Bose @ Associates (P) Ltd., Calcutta (1990 – 1991).
6. Environmental data generation for expansion of Patpahar dolomite mine, Orissa. Sponsor : M/s M. N. Dastur @ Co. (P) Ltd. (1990 – 1991).
7. Environmental data generation for the proposed development of Maubhandar works of Indian Copper Complex, Bihar. Sponsor: M/s Dames and Moore, Australia (1992).
8. Environmental Impact Assessment /Control Measures for abatement of pollution of Rokhia Gas Thermal Project. Sponsor : Tripura State Pollution Control Board, Govt. of Tripura (1991 – 1993).
9. Environmental Audit of Maubhandar Works of India copper complex, Bihar. Sponsor : Hindusthan Copper Ltd (1992 – 1993).
10. Preparation of EIA/EMP for SGBK group of manganese mines and Dubna – Sakradih group of mines, Orissa. Sponsor : Orissa mining corporation Ltd. (1992 – 1994).
11. Preparation of EIA/EMP for Gua Iron ore (mine of IISC), Bihar, Sponsor: Steel Authority of India, Raw materials division (1992 – 1994).
12. Environmental data generation and assessment of Environmental Impact for the proposed fly ash utilisation project of Kolaghat thermal power project of West Bengal , Power Development Corporation Ltd. Sponsor : Electric Power Development Corporation, Japan (1992 – 1994).
13. Regional Environmental Management of Chakdah – Haringhata block of Nadia district , West Bengal. Sponsor : Department of Science and Technology, Govt. of West Bengal ,in collaboration with Kalyani University (1992 – 1994).
14. Environmental monitoring for the proposed 1 million tonnes per year alumina project along with proposed bauxite mines at Kutrumali and Sijimali (Roygada district, Orissa) of M/s Larsen and Tubro Ltd., Bombay. Sponsor : M. N. Dastur & Company Ltd., Calcutta (1993 – 1994).
15. EIA of Babupur limestone mine (M. P.) & Gatitang dolomite mine, Orissa, SAIL.
16. EIA of ERPL refinery of Paradeep, Orissa.
17. EIA of Coal mine complex of SAIL of Bihar and Orissa.
18. EIA of Vizak power plants.
19. EIA of KJB pipelines.
20. EIA of Cochin Coimbatore-Karwar and Trichi pipelines.
21. EIA of Petrochem and Panipath region.
22. EIA of Ranchi-Paradeep pipelines.
23. EIA of Haldia-Barauni pipelines.
24. EIA of Koyali-Ratlam pipelines.
25. EIA of Green Valley Electronic project, Calcutta.

26. EIA of IOCL pipeline, Gujarat.
27. EIA of ITC Hotel project, Calcutta.
28. EIA of West Bengal Housing Board project, Calcutta.
29. EIA of West Bengal Housing Board project, Howrah
30. EIA of Bolani Iron Ore Mine, SAIL.
31. EIA, Mezia Thermal Power plant, West Bengal, 2005
32. Green Belt Development, CESE, Budgebudge, West Bengal, 2006
33. EIA, Haldia Port Complex, West Bengal, 2006.
34. Koderma Ultra Mega Thermal Power Plant, 2007.

List of Research Projects

Sl. No.	Title	Funding Agency	Amount Sanctioned (in lakhs)
A. <u>COMPLETED PROJECTS</u>			
1.	"Plant colonization on Industrial waste land : survey, ecology and study of biological peculiarities in the reclamation perspectives." (Joint Project with University of Calcutta)	Department of Forest & environment (Govt. of India), 1985-1968.	4.5
2.	"Studies on algal symbiosis with particular reference to <u>Azolla</u> - <u>Anabaena azollae</u> Symbiosis".	University Grants Commission, 1989-1992.	2.5
3.	"Studies on the Feasibility of short rotation forestry (SRF) for energy plantation in wasteland".	Department of Non-conventional Energy sources, 1987-1990.	3.5
4.	"Energy Plantation Demonstration Programme".	Department of non-conventional Energy sources, 1988-1989.	0.4
5.	"Studies on the planktonic and benthic algae of the sunderban delta region of Hoogly-Matla estuary with special reference to the bio-monitoring of water quality".	University Grants Commission 1995-1998.	2.5
6.	"Biotransformation and sink of arsenic from ground water by micro-algal basal biotreatment system".	Rajib Gandhi Technology Mission, 1993-1997.	4.5
7.	"Noise survey of Calcutta and Howrah city".	West Bengal Pollution Control Board, 1994-1996.	1.75
8.	"studies on the biofouling of fresh water mussels in West Bengal". (Jointly with Fresh Water Fishery research Station, Kulia).	DST (West Bengal) 1995-1996.	0.70
9.	"Studies on the insect herbivory in the forest of West Bengal".	ICFRI, Dehradun 1997-1990	2.9
10.	"studies on Sunderban benthic algae with reference to their Community Structure phenology and utilization potentialities"	UGC	5.5
11.	"Studies on the effects of infectious fungi on Storage grain using Gamma irradiation and proton beam".	IUC-DAFF, CC	4.5
B. ONGOING PROJRCT			
12.	Arsenic in Rice system	DST, West Bengal	4.0
13.	ENVIS Centre on Environmental Biotechnology	MoEF, Govt. of India	-

List of Ph. D. Supervised

Sl. No.	Name	Year	Name of the Supervisor	Title of the Ph.D. thesis
1.	Udaychand Pal	1990	Dr. S. C. Santra	Floristic survey of algal flora of Midnapore (W.B.) with particular reference to their utilization.
2.	Amal Kumar Sahu	1990	Dr. S. C. Santra	Studies on the plant communities in the industrial wasteland of southern Bengal, India.
3.	Smt. Beauty Saha	1991	Dr. S. C. Santra & Dr. P. K. Mukherjee CU)	Ecofloristic survey of plant communities of coal mine dumps in the reclamation perspective.
4.	Chandan Mukhopadhyay	1992	Dr. S. C. Santra & Dr. P. D. Ghosh	Studies on the growth rate, biomass productivity, water use efficiency and regeneration of plantlets through tissue culture techniques in some tropical tree
5.	Subrata Dan	1993	Dr. S. C. Santra	Biomonitoring of water pollution An ecotoxicological studies using aquatic algae.
6.	Miss Sanghamitra Gangopadhyay	1993	Dr. S. C. Santra	Investigation on the biology of some symbiotic and epiphytic algae.
7.	Swapan Chandra Deb	1993	Dr. S. C. Santra & Dr. J. S. Pandey (NEERI)	Ecological studies of sewagefed pond to improve the productivity.
8.	Subir Kumar Ghosh	1995	Dr. S. C. Santra & Dr. P. K. Mukherjee CU)	Studies in the ecology of aquatic plant communities in West Bengal, India
9.	Aloke Kumar Branma	1996	Dr. S. C. Santra	An investigation on the plant strategies for adaptation in saline habitat with reference to some plants of tropical mangrove vegetation.
10.	Smt. Nandita Chakravorty	1996	Dr. S. C. Santra & Dr. V. Supunan (CIFRI)	“Biomonitoring of pollution in Hoogly estuary through plankton species diversity”.
11.	Satyagopal Mitra	1996	Dr. S. C. Santra & Dr. B. Pati	Ecological studies of lichens with special reference to air pollution biomonitoring.
12.	Ganesh Rana	1997	Dr. S. C. Santra	Limnological studies of fresh water oodles in the perspective of scientific culture fisheries management
13.	Debashis Chakravorty	1997	Dr. S. C. Santra & Dr. Biva Roy (Bose Institute)	Studies on road traffic noise and its impact on community responses and planning for future noise reducting in Calcutta metropolis.
14.	Moumita Roy	1997	Dr. S. C. Santra	Study of the status of NTFP availability & utilization in forest of North Bengal (India) with special reference to its ecological impact or local environment.
15.	St. Edward Kabir	1997	Dr. S. C. Santra & Dr. A. P. Das	Studies in the effect of climate and nutrients on related physiological and Biochemical parameters of some tea (<i>Camellia sinensis</i>)
16.	Ananda Banerjee	1998	Dr. S. C. Santra	Studies of planktons of rivers in mangrove delta region of West Bengal, India
17.	Gopa Bhar	1998	Dr. S. C. Santra	An investigation on the removal of arsenic .from ground water by microbial system.
18.	Sumana Mazumder	1998	Dr. S. C. Santra & Dr. K. K. Sengupta	Studies of effect of environment factors on growth, survibility, reproduction and pearl production of fresh water mussels (<i>LameIIiae marginalis</i>).
19.	Santanu Saha	1998	Dr. S. C. Santra	Ecological studies on different types of high altitude temperate vegetation in the Meghma-Tonglu region of Darjeeling hills, WB (India)
20.	Sumita Patra	1998	Dr. S. C. Santra	Toxicological studies on biota using paper mill waste water.

21.	Baisakhi Bandyopadhyay	2000	Dr. S. C. Santra	Morphological, Biochemical & Cytological investigation of different plant species under tribe Phaseolae of Indian Fabaceae.
22.	Mrinmoy Munshi	2001	Dr. S. C. Santra & Dr. S. Lahiri	Biochemical and Enzymology studies on plant system in the perspective of air quality monitoring
23.	Kanta Pal	2001	Dr. S. C. Santra & Dr. ZD. K. Pal	Coastal tourism in Digha region of West Bengal with special reference to environmental problems, future developmental prospect and management plan.
24.	Manisa Deb	2002	Dr. S. C. Santra	Studies on a coastal creek ecosystem with special consideration, of energetic, trophic status, productivity, and biodiversity changes.
25.	Aariz Aftab	2002	Dr. S. C. Santra	Studies on carrying capacity assessment of Haldia Industrial Complex, W. B (India)
26.	Indrani Choudhury	2005	Dr. S. C. Santra & Dr. M. Chakrabarty	Environmental status evaluation of agroecosystem of South 24 Parganas district, West Bengal using Remote sensing and GIS Techniques.
27.	Alok Chandra Samal	2005	Dr. S. C. Santra	An Investigation on Accumulation of Arsenic in Ecosystem of Gangetic West Bengal And Assessment of Potential Health Risk
28.	Joy Mukhopadhaya		Dr. S. Bhattacharya & Dr. S. C. Santra	Ecological Studies on <i>Anopheles Stephensi</i> with special reference to Epidemiology of Malaria in Calcutta
29.	Suman Das	2006	Dr. S. C. Santra	Studies in Bioremediation of Waste Water in Perspective of Reuse in Agriculture and Aquaculture.
30.	Sukalyan Chakraborty	2006	Dr. S. C. Santra	Biochemical and Enzymatic Analysis of Benthic Algae of Sunderbans, West Bengal.
31.	Jyoti Prakash Maity	2006	Dr. S. C. Santra Dr. A. Chakraborty (UGC-DAE, CSR)	Studies on Radiation Induced Effects on Fungal Population Infesting Stored Grain
32.	Rajarshi Mitra	2007	Prof. S. C. Santra Prof S. Hazra (JU)	Assessment of Environmental Change and Sustainability at the Bhitarkanika National Park and Adjacent Coastal Areas of Orissa, India
33.	Mousumi Pal	2007	Prof. S. C. Santra Dr. Nitai Kundu, IESWBM	Environmental management of 'Peri-Urban interface' using space borne data and GIS: A study of East Kolkata Peri-Urban ecosystem.
34.	Partha Sarathi Ghosh	2007	Prof. S. C. Santra	Studies on the changing vertebrate faunal diversity in urban environment: A case study in Calcutta