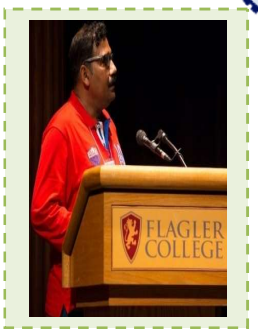
SARAT CENTENARY COLLEGE, DHANIAKHALI, HOOGHLY, WB
TEACHER PROFILE

NAME: DR. SANDIP KUMAR BASAK



E-MAIL ADDRESS: sandipbasak9592@gmail.com

DEPARTMENT: Botany

DESIGNATION: Principal

OTHER RESPONSIBILITIES IN COLLEGE: Secretary, DDO & Others

DATE OF JOINING THIS COLLEGE: 01.09.2018

PAST SERVICES DETAILS:

Institution	Designation	Dates of Joining – Leaving
Kandi Raj College	Assistant Professor and Associate Professor	30.4.2010 to 31.08.2018
Kurseong College	Senior Lecturer in Botany	01.3.2001 to 29.4.2010
CEMDE, University of Delhi	Research Scientist B(on deputation)	05.01.2006 to 10.10.2007

ACADEMIC QUALIFICATIONS: M.SC., M.PHIL., PH.D.

RESEARCH GUIDANCE:

- Empanelled as Joint Ph.D. supervisor in West Bengal State University, Department of Botany and in St. Xavier's College, Kolkata, Department of Microbiology. At present two Ph.D. students are already registered under my joint supervision in St. Xavier's College, Kolkata, Department of Microbiology. The Ph.D.thesis submitted and Ph.D. viva voce was completed and finally awarded for one of the students.
- Two Ph.D. degrees are already awarded under my joint supervision from West Bengal State University.

1. Thesis title: "Study of eco-physiology and molecular mechanism of salinity stress tolerance in some mangrove associate species from Sundarban Mangrove Ecosystem of West Bengal". Awarded in 2019
2. Thesis title:"Study of the molecular adaptation to salinity stress in mangrove species and loss of mangrove ecosystem homeostasis with an attempt to biorestoration of degraded mudflats in Sundarban Mangrove Ecosystem". Awarded in 2020

RESEARCH EXPERIENCES:

Seminars Attended		Papers Presented		Papers Published	
National	International	National	International	Book Chapters	Journal articles
10		18	21		15
Books		Research Projects		Research Fellowships	
Authored	Edited	Minor	Major	Junior	Senior
03		01	09	BSI	BSI

ANY OTHER INFORMATION ON RESEARCH ACTIVITIES:

Present research interests:

- A taxonomic survey of halophytic plant population including Mangroves of Sunderban areas, West Bengal
- Ecological Restoration of the degraded mangrove forests in Indian Sundarbansthrough a unique biorestoration technology
- Pollination Biology and Reproductive Ecology of mangrove species
- Biological control and invasion mechanisms of invasive plant species

Research areas explored:

- Revisionary studies of the genus *Primula*L. (Primulaceae) in the Himalaya of Indian region
- Up to date Floristic assessment of Delhi state with an eye towards recent changes in floral diversity
- Weed taxonomy, biology and ecology
- Ecological restoration of degraded forest landscapes
- Bioprospecting of medicinal plants
- *In situ* and *ex situ* conservation of rare and endangered species

DETAILS OF SEMINARS ATTENDED:

TRAINING/WORKSHOP ATTENDED:

1. Attended training course on DNA based marker technologies and its application in Plant Biology at Tata Energy Research Institute, New Delhi from 20-30 November, 2001
2. Attended Workshop on Biosystematics and conservation of plant diversity at the Centre for Environmental Management of Degraded Ecosystems, University of Delhi, Delhi from 15-24 January, 2003
3. Attended Workshop on Geometric Morphometrics organized by Centre for Environmental Management of Degraded Ecosystems, CEMDE, University of Delhi, 20.3.2012-30.3.2012

DETAILS OF PAPERS PRESENTED:

Papers presentedin International Conferences organized outside India

1. "In Indian Sundarbans xenogamous pollination is preferred in *Bruguieragymnorrhiza* and *Avicennia* spp., the most successful ones used commonly for mangrove afforestation ventures". **Sandip Kumar Basak**, Krishna Ray, Subhajit Saha. Oral presentation in Sixth Mangrove Macrobenthos and Management conference (MMM6) held during July 24-28, 2023, at Universidad de los Andes (Caribbean Campus) and Universidad de Cartagena (San Agustin Cloister) at Cartagena-Colombia, in the South American continent and the Caribbean region.

2."Testing a site-specific approach for ecological restoration of degraded mangrove ecosystems, species communities and ecosystem services: Case study from Indian Sundarbans".Krishna Ray, **Sandip Kumar Basak**. Poster presentation in Sixth Mangrove Macrobenthos and Management

conference (MMM6) held during July 24-28, 2023, at Universidad de los Andes (Caribbean Campus) and Universidad de Cartagena (San Agustin Cloister) at Cartagena-Colombia, in the South American continent and the Caribbean region.

3. "Effect of degradation stressors on loss of original habitat and biodiversity of "rare and threatened" mangrove species and its associates in fringe mangroves of Indian Sundarbans". **Sandip Kumar Basak**, Krishna Ray, Chayan Kumar Giri, Subhajit Saha, Hemendra Nath Kotal, Anup Mandal, Rajojit Chowdhury, MstMomtaj Begam. Bilateral International Conference, jointly organized by the Institute of Ecotoxicology and Environmental Sciences (IE&ES), India and the Bangladesh Environment and Development Society (BEDS), Bangladesh in association with the Khulna University, Khulna, Bangladesh during 19th–20th October, 2022 at the Khulna University, Bangladesh.

4. "Major bacterial communities present in mangrove forest ecosystem in Indian Sundarbans and their ecological significance". Anup Mandal, **Sandip Kumar Basak**, Krishna Ray. Bilateral International Conference, jointly organized by the Institute of Ecotoxicology and Environmental Sciences (IE&ES), India and the Bangladesh Environment and Development Society (BEDS), Bangladesh in association with the Khulna University, Khulna, Bangladesh during 19th–20th October, 2022 at the Khulna University, Bangladesh.

5. "Restoration attempts of rare and near threatened species in Indian Sundarbans with reference to conventional and non-conventional techniques". Chayan Kumar Giri, Krishna Ray, **Sandip Kumar Basak**.Bilateral International Conference, jointly organized by the Institute of Ecotoxicology and Environmental Sciences (IE&ES), India and the Bangladesh Environment and Development Society (BEDS), Bangladesh in association with the Khulna University, Khulna, Bangladesh during 19th–20th October, 2022 at the Khulna University, Bangladesh.

6. "Phthalic acid esters (PAEs), an endogenous secondary metabolite frequently observed to be present in mangrove species of Indian Sundarbans and its ecological/toxicological relevance of presence". Hemendra Nath Kotal, **Sandip Kumar Basak**, Krishna Ray. Bilateral International Conference, jointly organized by the Institute of Ecotoxicology and Environmental Sciences (IE&ES), India and the Bangladesh Environment and Development Society (BEDS), Bangladesh in association with the Khulna University, Khulna, Bangladesh during 19th–20th October, 2022 at the Khulna University, Bangladesh.

7.Poster and lightning talk presentation in 5th International Mangrove Macrobenthos and Managementmeeting (MMM5) in Singapore, 01-05 July, 2019 entitled "Elimination of reproductive hindrances in mangrove propagation, an emergent criterion for successful mangrove rehabilitation- A study from Indian Sundarbans" Subhajit Saha, SatarupaNath, Ipsita Das, TapanSutradhar, **Sandip Kumar Basak** and Krishna Ray

8.Poster presentation in IUCN-SSC Mangrove Specialist Group: Mangrove Symposium 2017, 12-17 September 2017, Leibniz-Centre for Tropical Marine Research (ZMT), Bremen, Germany entitled "Importance of rhizosphere conservation in mangroves of Indian Sundarbans". **Sandip Kumar Basak**, RajojitChowdhury,ChandanMukherjee,TapanSutradhar, Krishna Ray

9. Oral presentation in Mangrove &Macrobenthos Meeting (MMM4), held in July 18-22, 2016, at Flagler College in St. Augustine, Florida, USA entitled "Osmotic adaptation in mangroves and associates-A challenge for degraded mangrove ecosystem". Krishna Ray**,** Tapan Sutradhar, Momtaj Begam, **Sandip Kumar Basak**

10. Poster and lightning talk presentation in Mangrove &Macrobenthos Meeting (MMM4), held in July 18-22, 2016, at Flagler College in St. Augustine, Florida, USA "Mangrove community structure analysis in Western Sundarbans in India-A guide for designing mangrove restoration". **Sandip Kumar Basak**, TapanSutradhar, MomtajBegam, Krishna Ray

11. Poster presentation in Mangrove &Macrobenthos Meeting (MMM4), held in July 18-22, 2016, at Flagler College in St. Augustine, Florida, USA

"In search of soil indicators to evaluate the impact of sea level rise -A study from Sundarban, India" Chandan Mukherjee, RajojitChowdhury, MomtajBegam, TapanSutradhar, **Sandip Kumar Basak**, and Krishna Ray

12. Oral presentation in Turning The Tide Onmangrove Loss "a focus on the state of mangroves in Asia" organized by IUCNMangrove specialist group held during 12th&13th of November 2015 in XiamenUniversity, Xiamen, Fujian, P. R. China "Establishing a degraded mangrove biorestoration technology in Indian Sundarban and associated study for the loss of mangrove ecosystem homeostasis". Krishna Ray, TapanSutradhar, MomtajBegam, RajojitChowdhury, ChandanMukherjee and **Sandip Kumar Basak**

Oral/ Poster Presentations at National and International Symposia and Conferences organized in India

1. "Screening for Sigatoka Leaf Spot Disease tolerant banana across 14 Indian cultivars in view of phenyl propanoid pathway-based defense responses." Ipsita Das, Subhajit Saha, PunyaslokeBhadury, **Sandip Kumar Basak**, Krishna Ray.National Symposium on "Plant Biology in the Post-Genomic Era:Strategies for Crops and Mankind"SNU-BioTalk 2024, jointly organized by the Department of Biotechnology and Department ofMicrobiology, SNU campus, Kolkata, February 8-9, 2024.

2. "Bibenzyl scaffold derived molecules, an already known group of secondary metabolitesconceptualized for potential eco-physiological acclimative role in mangrove ecosystem ofIndianSundarbans".Hemendra Nath Kotal, Chayan Kumar Giri, PunyaslokeBhadury, Anup Mandal, Anjali Ghosh, Subhajit Saha, **Sandip Kumar Basak** and Krishna Ray.National Symposium on "Plant Biology in the Post-Genomic Era: Strategies for Crops and Mankind" SNU-BioTalk 2024, jointly organized by the Department of Biotechnology and Department ofMicrobiology, SNU campus, Kolkata, February 8-9, 2024.

3. "Successful fruit-set is majorly effected via cross-pollination in Indian Sundarbans: acomprehensive study indicating towards strong self-incompatibility in mangrove species."Subhajit Saha, Ipsita Das, Anindita Banerjee, Krishna Rayand**Sandip KumarBasak.**National Symposium on "Plant Biology in the Post-Genomic Era: Strategies for Crops and Mankind" SNU-BioTalk 2024, jointly organized by the Department of Biotechnology and Department of Microbiology, SNU campus, Kolkata, February 8-9, 2024.

4. "In spite of different environmental barriers reproductive ecology of mangroves of Indian Sundarbans indicates Xenogamy as preferred mode of successful reproduction." Subhajit Saha, Ipsita Das, Anindita Banerjee, Krishna Ray and **Sandip Kumar Basak.** National Seminar On "Popular and Basic Sciences: A Quest Towards Foundation of Science" organized by Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302 Department of Science & Technology and Biotechnology (DSTBT), Govt. of West Bengal, 23-24 September, 2022.

5. "Importance of metagenomic surveys of soil bacterial communities in monitoring mangrove forest health." Anup Mandal, **Sandip Kumar Basak**, Krishna Ray. National Seminar On "Popular and Basic Sciences: A Quest Towards Foundation of Science" organized by Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302 Department of Science & Technology and Biotechnology (DSTBT), Govt. of West Bengal, 23-24 September, 2022.

6. "Climate change affects the diversity of Indian Sundarbans: Restoration attempts of this lost diversity with reference to conventional and non-conventional techniques." Chayan Kumar Giri, Krishna Ray, **Sandip Kumar Basak**. National Seminar On "Popular and Basic Sciences: A Quest Towards Foundation of Science" organized by Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302 Department of Science & Technology and Biotechnology (DSTBT), Govt. of West Bengal, 23-24 September, 2022.

7. "Diethyl phthalate, no more a xenobiotic compound for plant species, is widespread in mangrove species of Indian Sundarbans and its relevance of presence". Hemendra Nath Kotal, **Sandip Kumar Basak**, Krishna Ray. National Seminar On "Popular and Basic Sciences: A Quest Towards Foundation of Science" organized by Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302 Department of Science & Technology and Biotechnology (DSTBT), Govt. of West Bengal, 23-24 September, 2022.

8. Paper presentation on "Study of rare and near threatened species in Indian Sundarbans and their restoration" Chayan Kumar Giri, Krishna Ray, **Sandip Kumar Basak**. National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

9.Paper presentation on "A comparative account of Reproductive biology of mangroves in different habitat conditions indicating cross-pollination as preferred mode of reproductive success in Indian Sundarbans". Subhajit Saha, Ipsita Das, Anindita Banerjee, Krishna Ray and **Sandip Kumar Basak**.National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

10. Paper presentation on "Study of photosynthesis and photosynthates as osmotic stress warriors in mangroves of Indian Sundarbans".Hemendra Nath Kotal, **Sandip Kumar Basak**, Krishna Ray. National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

11. Paper presentation on "Diversity of root endophytic bacteria of mangroves, plant growth promotion at lab and at rice fields of Indian Sundarbans" Biswajit Biswas, Sumana Mondal, Chayan Kumar Giri, MahaswetaMitra Ghosh, **Sandip Kumar Basak**and Krishna Ray.National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

12. Paper presentation on "Bacterial diversity in native halophytic grass rhizospheres in Indian Sundarbans-Culture independent and Culture dependent scenario. Sumana Mondal, Chayan Kumar Giri, **Sandip Kumar Basak** and Krishna Ray. National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

13. Paper presentation on "Ecological aspects of Planctomycetes and Actinobacteria in mangrove forest ecosystem in Indian Sundarbans."Anup Mandal, **Sandip Kumar Basak**, Krishna Ray.National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

14. Paper presentation on "Revisiting the molecular cross-talk between denitrification and phosphate uptake byPAO bacteria for efficient phosphate bioremediation." Rudranil Sengupta, **Sandip Kumar Basak**, Krishna Ray.National Seminar on "Biodiversity Conservation & Sustainable Development-with a sense of urgency to combat desertification and climate change".April22-23, 2022.Sarat Centenary College, Dhaniakhali, Hooghly, WB, PIN-712302.

15."Across a wide degradation gradient in Indian Sundarbans, cross-pollination seems to be the preferred mode for reproductive success in mangroves: some data from the native habitat". Subhajit Saha, Satarupa Nath, Ipsita Das, Rahul Joshi, Anindita Banerjee, Krishna Ray and **Sandip Kumar Basak**. National Virtual Conference on "Genomics to Phenomics: A New Horizon in Plant Science Research"(NVC-2021), Department of Botany, University of Calcutta, 28th February -1st March, 2021.

16. "Culturable community of root endophytic bacteria in Indian Sundarban mangrove species demonstrate high potential for plant growth promoting activities under laboratory conditions". Biswajit Biswas, Sumana Mondal, Mahasweta Mitra Ghosh, **Sandip Kumar Basak** and Krishna Ray.National Virtual Conference on "Genomics to Phenomics: A New Horizon in Plant Science Research"(NVC-2021), Department of Botany, University of Calcutta, 28th February -1st March, 2021.

17."Halophytic grasses and rice rhizosphere in Indian Sundarbans are habitat of nutrient cycling bacteria having high potential of plant growth promotion"Sumana Mondal, Biswajit Biswas, **Sandip Kumar Basak**and Krishna Ray.National Virtual Conference on "Genomics to Phenomics: A New Horizon in Plant Science Research"(NVC-2021), Department of Botany, University of Calcutta, 28th February -1st March, 2021.

18. Poster presentation on "A differential gene expression profile distinguishes mangrove physiology under disturbed ecosystem from that of pristine one in Indian Sundarbans" Tapan Sutradhar,Mst. Momtaj Begam, Chandan Mukherjee, **Sandip Kumar Basak**, Krishna Ray. 4th International Plant Physiology Congress, December 2-5, 2018, CSIR-NBRI, Lucknow, India

19."Sundarban grass rhizosphere microbes and their contribution to mangrove environment" TapanSutradhar, MomtajBegam, Chandan Mukherjee, RajojitChowdhury, **Sandip Kumar Basak**and Krishna Ray.National Conference on "New Avenues in microbiology & biotechnology: Challenges andprospects" jointly organized by Department of Microbiology, West Bengal StateUniversity&Sarada Ma Girls' College, Barasat on 18th& 19th March,2016.

20. "Soil microbial enzyme activity profile under degraded and non-degraded mangroveforest" RajojitChowdhury, Chandan Mukherjee, TapanSutradhar, **Sandip Kumar Basak** and Krishna Ray.National Conference on "New Avenues in microbiology & biotechnology: Challenges andprospects" jointly organized by Department of Microbiology, West Bengal State University &Sarada Ma Girls' College, Barasat on 18th& 19th March,2016.

21. "Loss of adaptive plasticity of mangroves in degraded ecosystem-a study based onosmolyte accumulation" Krishna Ray, **Sandip Kumar Basak**, Tapan Sutradhar, Chandan Mukherjee, Rajojit Chowdhury, Momtaj Begam.3rd InternationalPlant Physiology Congress, Challenges and Strategies in Plant Biology Research held during December 11-14, 2015, Convention Centre, JNU, New Delhi.

22."Mangroves-A concept of convergent evolution" by TapanSutradhar, MstMomtajBegam, **Sandip Kumar Basak**, Krishna Ray. National Symposium on "EVOLVING PLANT BIOLOGY: FROM CHROMOSOMES TO GENOMICS", November 27-29, 2014, organized by West Bengal Academy of Science and Technology (WAST), in collaboration with Bose Institute, University of Calcutta and The Ramakrishna Mission Institute of Culture.

23. Poster presentation entitled "Salt tolerant rice cultivars versus Halophytic grass species - A Biochemical comparison". TapanSutradhar, Angana Das, MstMomtajBegam, **Sandip Kumar Basak**, Krishna Ray. International Conference on Molecular Biology and its applications organized by Department of Life Science & Biotechnology, Jadavpur University, February 14-15, 2014.

24. Paper presentation on "Mangrove associates: a lesser studied assemblage in mangrove ecosystem". Momtaj Begam, Tapan Sutradhar, Krishna Ray and **Sandip Kumar Basak**. UGC & DST Sponsored National Symposium on Advances in Plant and Microbial Research organized by DRS-Department of Botany, University of North Bengal, Siliguri 734013, India, 12th-13th December 2014.

25. Paper presentation on "Organic solutes and soluble sugars: Back bone of mangrove salinity adaptation". Tapan Sutradhar, Momtaj Begam, Krishna Ray, **Sandip Kumar Basak.** UGC & DST Sponsored National Symposium on Advances in Plant and Microbial Research organized by DRS-Department of Botany, University of North Bengal, Siliguri 734013, India, 12th-13th December 2014.

26. Poster presentation on "Studies on adaptive plasticity of two halophytic grasses-Primary colonizers in mangrove ecosystem".TapanSutradhar, Angana Das, **Sandip Kumar Basak**, Krishna Ray. National Seminar on Micro- and Macro- resources In Biomolecular Technology, February 25-26, 2013. Department of Biotechnology & Department of Microbiology, North Bengal University.

27. Paper presentation on "Halophytic grasses as potential sources of germplasm for salinity stress related genes to develop salt tolerant rice". Sadhukhan, M., **Basak S.K.** and Ray, K. Advances in Abiotic and Biotic Stress Management of Plants, September 23-24, 2011. Department of Botany, University of North Bengal.

Significant Lectures Delivered:

1. Served as a Resource Person in national workshop on **"Vascular Plant Taxonomy: Field Skills, Plant identification& Plant nomenclature"** organized by Department of Botany, University of Calcutta on December 5-12, 2018 and delivered an invited lecture on**"Methods to evaluate the forest populations and its application in community study of Sundarban mangroves".**

2."Himalayan medicinal treasure vulnerable in a fragile ecosystem with conservation in peril -An issue of great concern" on 10.9.2016. UGC –sponsored National Seminar on "**Medicinal plant, Health and Environment**" Department of Botany, AcharyaPrafulla Chandra College, New Barrackpore, Kolkata.

3. "The Genus *Primula*of Indian region –A field guide for identification" on 15.2.2017 Plant Systematics national workshop "**Plant systematics: Challenges and Perspectives and Dr. Dan H. Nicolson Memorial Lectures**" Department of Botany, University of Calcutta13.2.2017-23.2.2017.

4.Served as a Resource Person at the **Workshop on Geometric Morphometrics** organized by the Centre for Environmental Management of Degraded Ecosystems, CEMDE, **University of Delhi** from 20.3.2012-30.3.2012 and delivered a lecture of the above workshop on "Application of Taxonomy and anatomy in plant taxonomy and adaptation studies" on 28.3.2012

5.A lecture given on "**Establishing a degraded mangrove biorestoration technology in Indian Sundarban and associated study for the loss of mangrove ecosystem homeostasis"** on 13.11.2015 in the conference on TURNING THE TIDE ON MANGROVE LOSS "a focus on the state of mangroves in Asia" by **IUCN SSC MANGROVE SPECIALIST GROUP**, 3rd Annual SYMPOSIUM, November 12-14th, 2015, **Xiamen, China**&College of the Environment & Ecology, Xiamen University.

6.Delivered a short lightning talk and poster presentation on **"Mangrove community structure analysis in Western Sundarbans in India-A guide for designing mangrove restoration"**on 21.7. 2016 in the Mangrove &Macrobenthos Meeting (MMM4), which was held during July 18-22,2016, at Flagler College in **St. Augustine, Florida, USA.**

7. Delivered an invited lecture on**"Biorestoration of degraded mangrove forest along the embankment of the river Ramganga to restore the loss of mangrove ecosystem"**on 05.06.2019on occasion of World Environment Day 5th June, 2019 organized by Vivekananda Institute of Biotechnology (Under Core Support Program of DST, Govt. of India), Nimpith Ashram-743338, South 24 Pgs, West Bengal.

DETAILS OF PAPERS PUBLISHED:

1. Ray, K., Basak, S.K., Giri, C.K. et al. Ecological restoration at pilot-scale employing site-specific rationales for small-patch degraded mangroves in Indian Sundarbans.***Scientific Reports*** **14, 12952 (2024). https://doi.org/10.1038/s41598-024-63281-8[Impact factor: 4.6]**

2. Mondal S, Biswas B, Chowdhury R, Sengupta R, Mandal A, Kotal HN, Giri CK, Ghosh A, Saha S, Begam MM, Mukherjee C, Das I, Basak SK, Mitra Ghosh M and Ray K. Estuarine mangrove niches select cultivable heterotrophic diazotrophs with diverse metabolic potentials—a prospective cross-dialog for functional diazotrophy. **Front. Microbiol. 15:1324188 (2024). doi: 10.3389/fmicb.2024.1324188[Impact factor: 5.2]**

3. Sarkar B, Kotal HN, Giri CK, Mandal A, Hudait N, Madhu NR, Saha S, Basak SK, Sengupta J and Ray K. Detection of a bibenzyl core scaffold in 28 common mangrove and associate species of the Indian Sundarbans: potential signature molecule for mangrove salinity stress acclimation. **Front. Plant Sci. 14:1291805 (2024). doi: 10.3389/fpls.2023.1291805[Impact factor: 5.6]**

4. Mst Momtaj Begam, Rajojit Chowdhury, Tapan Sutradhar, Chandan Mukherjee, Kiranmoy Chatterjee, Sandip Kumar Basak & Krishna Ray. Forecasting mangrove ecosystem degradation utilizing quantifiable eco-physiological resilience -A study from Indian Sundarbans. Scientific Reports 10, 6683 (2020). https://doi.org/10.1038/s41598-020-63586-4**[Impact factor: 5.133]**

5. RajojitChowdhury, TapanSutradhar ,Mst. MomtajBegam, Chandan Mukherjee, KiranmoyChatterjee, Sandip Kumar Basak, Krishna Ray. Effects of nutrient limitation, salinity increase, and associated stressors on mangrove forest cover, structure, and zonation across Indian Sundarbans. Hydrobiologia, 2019. 842(1),191-217.https://doi.org/10.1007/s10750-019-04036-9. [Impact factor: 2.694]

6. Mst. M Begam, T. Sutradhar, R. Chowdhury, C. Mukherjee, S. K. Basak, K. Ray. Native salt-tolerant grass species for habitat restoration, their acclimation and contribution to improving edaphic conditions: a study from a degraded mangrove in the Indian Sundarbans.**Hydrobiologia (2017) 803(1):373-387. DOI 10.1007/s10750-017-3320-2.** ISSN: 0018-8158 [**Impact factor: 2.694]**

7. C. Mukherjee , R. Chowdhury , T. Sutradhar, M. Begam, S. M. Ghosh ,Sandip Kumar Basak , K. Ray. Parboiled rice effluent: A wastewater niche for microalgae and cyanobacteria with growth coupled to comprehensive remediation and phosphorus biofertilization. **Algal Research 19 (2016) 225–236. DOI: http://dx.doi.org/10.1016/j.algal.2016.09.009. ISSN: 2211-9264. [Impact factor: 4.401]**

8. Basak S. K., Maity D. &Maiti.G. G. Bioprospecting of fodder plant resources for domestic animals of Kurseong Hills, Darjeeling, West Bengal-Pleione **4(2): 294-306. 2010. ISSN No. 0973-9467**

9. Love A., Naik D. , Basak S. K., Babu S., Pathak N. &Babu C. R. Variability in Foliar Essential Oils among Different Morphotypes of Lantana Species Complexes, and Its Taxonomic and Ecological Significance – **Chemistry and Biodiversity, 6: 2263-2274, 2009. https://doi.org/10.1002/cbdv.200800284**ISSN No. : 1612-1872. [Impact Factor: **2.408**]

10.Basak, S.K.&Maiti, G.G. A new subspecies of *Primulamunroi*Lindl. from the Eastern Himalaya – P. munroi ssp. schizocalyx**– ActaPhytotaxonomicaSinica, China *(Journal of Systematics and Evolution since 2008)*, 39 (5): 473-475, 2001.** ISSN No.: 1674-4918 (Print)1759-6831(Online).**https://www.jse.ac.cn/EN/Y2001/V39/I5/473**[**Impact Factor: 4.098]**

11.Basak, S.K.&Maiti, G.G. Seed morphology of *Primulacapitata* Hook. complex (Primulaceae) from the Eastern Himalaya– Journal of Economic andTaxonomic Botany**, 24(1): 107-114, 2000. ISSN No.: 2050-9768**

12. Basak, S.K.&Maiti, G.G. A new *Primula* from the Eastern Himalaya– **Journal of Economic and Taxonomic Botany, 23(3): 699-702, 1999. ISSN No.: 2050-9768**

13. Basak, S.K.&Maiti, G.G. *Primulaarunachalensis* sp. nov. (Primulaceae) from the Eastern Himalaya **– ActaPhytotaxonomica et Geobotanica, Japan, 51(1): 11-15, 2000.** ISSN No. : 1346-7565 [**Impact Factor: 0.535]**

14. Basak, S.K.*Cardaminemacrophylla*Willd.: A little known wild edible herb of the Eastern Himalaya.**Envis News Letter, Botanical Survey of India, Vol. 6, 1999.** ISSN-0974-1992

15.Basak, S.K."The Himalayan Ginseng" – *Panaxpseudoginseng* Wall**. Envis News Letter, Botanical Survey of India, Vol. 5, 1998.** ISSN-0974-1992

POPULAR COMMENT OR FOCUS OR NEWS ARTICLE

1. What to Grow or Not to Grow in Saltlake by Sandip Kumar Basak, The Telegraph June 23, 2023

2. Grasses spur mangroves to grow in an erosion-riddled Sundarbans patch by Sahana Ghosh, Mongabay, News and inspiration from Natures Frontline in India, March 03, 2022

3. In the Sprawl of the Sundarbans, Climate Change is a Harbinger of What is to Come by Bill Spindle, The Adventure(r), March 13, 2022

4. How bio-restoration is helping revive degraded Mangrove in Sundarbans by Dinesh C Sharma, Science & India Science War, September 17, 2019

DETAILS OF BOOKS AUTHORED/EDITED:

1. The Genus *Primula*L. in India (A Taxonomic Revision) : Book for taxonomic research
Authors:Sandip Kumar Basak, GourgopalMaiti&Prabhat Kumar Hajra (2014) ISBN No.13: 978-81-211-0491-3. Internationally published by Bishen Singh &Mahendra Pal Singh, Dehradun, India, Vedam Books of India and Koeltz Botanical Books, Germany.

2. Glimpses of Nature, 3 Motilal Nehru Place, Lutyens Delhi. An illustrated booklet on the gardens of Chief Minister's official residence
S. K. Basak, A. Love, F. A. Khudsar, M. Faisal, S. Babu, T. K. Roy and B. C. Sabata (First edition, 2007; Second edition 2008).
First edition, 2007. Published jointly by Department of Environment & Forests, Govt. of NCT of Delhi and Centre of Excellence Program, CEMDE, University of Delhi;

3. Basak, S.K.& Maiti, G.G. Seed Morphology of Primula L. sect. PetiolaresPax (Primulaceae) of the Himalayas of Indian region. Perspective of Plant Biodiversity, 317-328. 2002 (Bishen Singh &Mahendra Pal Singh Publisher) ISBN No.8121102987

DETAILS OF RESEARCH PROJECTS:

Sl.No	Title	Agency (Funding, Commissioning and/or Collaborating)	Period	Grant(s)/ Amount mobilized (so far) in Rs.	Whether Principal Investigator/ Coinvestigator or Consultant/Quality evaluator
1.	Project entitled "Exploring the ecological potential of a lesser known carragenophyte*Catenella* spp. as an environmental/climate change bio-indicator based on its life cycle and biology of carrageenan biosynthesis for Indian Sundarbans mangrove ecosystem" CRG/2022/009348 dated 04.07.2023.	Science & Engineering Research Board (SERB), Govt. of India	Ongoing 2023-2026 (3 yrs)	Rs. 40.2988 5 lakh.	Co-investigator
2.	Project entitled "*In situ* bioremediation approach at two major drains leading to Nohai Khal (falling onthe River Bidyadhari) and Khardah Khal (falling on the River Hooghly) respectively foreffectiveremovalofpollutantsindomesticsewage" 3398-2022-RHRB/1/C. Lab dt 5.12.2022	West Bengal Pollution Control Board (WBPCB), Govt. of West Bengal	2023 - continuing	Rs. 21.10 lakh.	Co-investigator
3.	Project entitled "Development of Biological Control Technology for invasive species, *Polyalthiasuberosa*, Hamjam, in Wild Life Sanctuary of Bethuadahari, West Bengal" BT/PR39375/FCB/125/51/2020 dated 17.03.2022.	Department of Biotechnology (DBT), New Delhi, Govt. of India.	Ongoing 2022-2025 (3 yrs)	Rs.39.83 360 lakh	Co-investigator

4.	Project entitled "Demonstration of established bio-restoration technology for ecological restoration of degraded mangrove ecosystem in Indian Sunderbans through site-specific approach across differential degradation gradients" BT/PR30531/BCE/8/1496/2018 dated 29.02.2020	Department of Biotechnology (DBT), New Delhi, Govt. of India.	Ongoing 2020-2025 (5 yrs).	Rs. 2.41894 Crores.	Co-investigator
5.	Project entited"Study of reproductive biology of mangrove species in Sundarbans in correlation to its potential for mangrove restoration". EMR/2016/005262 dated 31.07. 2017	SCIENCE & ENGINEERING RESEARCH BOARD (SERB), DST, Govt. of India	Completed 2017-2020 (3 yrs)	Rs. 39.3679 0 lakh	Principal investigator
6.	Project entitled "An in-depth study of host-non-mulberry silkworm interaction with special reference to extra floral nectaries (EFN) and volatile organic chemicals (VOC) of host plants and the silkworm's adaptations to the host plant's defense response" BT/PR16610/NER/95/221/2015 dated 13.10.2016	Department of Biotechnology, GOI	Completed 2016-2019	Rs. 25.16 lakh	Co-investigator
7.	UGC Minor Project on " A study on pollination biology of some Sundarban mangroves" F. PSW-165/15-16 (ERO) dated 20.1.2017	UGC	Completed 2016-2018	Rs. 4.29 lakh	Principal Investigator
8.	Project "Biorestoration of degraded mangrove forest along the embankment of the river Ramganga and relatedmolecular study for the loss of mangrove ecosystem homeostasis"[BT/PR7501/BCE/8/982/2013]dated October, 30 2013	Department of Biotechnology, GOI	Completed Nov., 2013-Nov.-2018 (5 yrs)	Rs 68.25600 lakh	Co-investigator
9.	Minor Project ("A taxonomic survey of halophytic grasses of Sunderban areas, West Bengal with an aim for utilization of selected germplasms for developing salt tolerant rice") UGC No.F.PSW-067/11-12 (ERO) dated 08/08/2011	UGC	Completed (Nov. 2011-Nov. 2013) 2 yrs	Rs. 1,97000/-	Principal Investigator
10.	UGC Minor Project ("Study and survey of *Panax pseudoginseng* Wall. (Araliaceae) for its systematics and genetic variation in some populations of the Eastern Himalaya")UGC (No. F. PSW-008/02 (ERO) dated 29th Nov. 2002)	UGC	Completed (Nov. 2002-Nov. 2004) 2 yrs	Rs. 36,000/-	Principal Investigator

DETAILS OF RESEARCH FELLOWSHIPS

1. Junior Research Fellow: Botanical Survey of India (1995-1997)
2. Senior Research Fellow: Botanical Survey of India (1997-2000)
3. Research Associate: Zoological Survey of India (2000-2001)

ANY OTHER INFORMATION:

(Membership of Academic/Professional Bodies/Organisations; Linkage with Institutions; Awards; Invitations etc.)

1. Research Collaboration with West Bengal state University
2. Collaboration with St. Xavier's College, Kolkata for Research
3. Research Projects sponsored by various agencies like UGC, DBT, DST, WBPCB etc.

RESPONSIBILITIES/ASSIGNMENTS FROM AFFILIATING UNIVERSITY AND OTHER UNIVERSITIES:

(other than Confidential assignments like paper setting and evaluation)

1. Former Member of U.G. Board of Studies in Kalyani University
2. Former Member of P.G. Board of Studies in Nor5th Bengal University