



Assistant Professor, Department of Environmental Science School of Earth and Environmental Sciences, CUHP

Contact Details:

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Academic Qualification:

Ph.D. in Science (2007)

Awarded by Jadavpur University, Kolkata, India (Graduate work was carried out at Department of Microbiology, Bose Institute, Kolkata, India)

Thesis Title: Microbial Fate of Estrogenic Phthalate Esters in the Environment: Biochemical and Molecular Analysis

Thesis Supervisor: Prof. Tapan K. Dutta (Bose Inst. Kolkata)

M.Sc. in Chemistry (1999)

University of Calcutta, Kolkata, India

Positions Held:

- December, 2012 till date Assistant Professor, Dept. Of Environmental Science, Central University of Himachal Pradesh, Dharamshala, HP; From February, 2017 To November 2019 - In-Charge, Department of Chemistry and Chemical Sciences Central University of Himachal Pradesh, Dharamshala, HP.
- May, 2012 December, 2012 Biomedical Post doctoral Research Fellow, Department of Pharmacology, Perelman School of Medicine at the University of Pennsylvania, , PA, USA.
- March, 2011 April, 2012 DFG Post doctoral Research Scientist, Molecular Phytopathology and Mycotoxin Research, Georg-August University of Goettingen, Goettingen, Germany.
- August, 2008 September, 2010 Alexander von Humboldt Research Fellow at Georg-August University of Goettingen, Goettingen, Germany.
- **September**, **2007 July**, **2008** Postdoctoral Research Associate, Dept. of Biological Chemistry, Indian Association for the Cultivation of Science, Kolkata, India.

- July, 2002 July, 2007 Junior and Senior Research Fellow, Dept. of Microbiology, Bose Institute, Kolkata, India.
- June, 2000 to March, 2002 CSIR Project Fellow, Department of Chemistry, Presidency College, Kolkata.
- July, 2007 September, 2007: Guest Lecturer in the department of Chemistry at Basanti Devi College, Kolkata. (UG degree course under Calcutta Univ.)
- **September**, 1999 **July**, 2002: Guest Lecturer in the department of Chemistry at Jogomaya Devi College, Kolkata. (UG degree course under Calcutta Univ.)
- November, 1999 June, 2000: Guest Lecturer in the department of Chemistry at Sri Chaitanya College, Habra, North-24 parganas. (UG degree course under Calcutta Univ.)

Specialisation:

Analytical Chemistry, Microbial Biotechnology, Bioremediation, Metabolomics, LC-MS based metabolic profiling

Research Interest:

Main research area is microbial biotechnology. Specific areas of interest are, (i) bioremediation of endocrine disrupting chemicals (EDCs), polycyclic aromatic hydrocarbons (PAH), pesticides, and antibiotics; (ii) metabolic finger printing of psychrotrophic bacteria isolated from Himalayan Glaciers and their biotechnological applications.

Publications:

2021:

- 32. Kaushal, D., Bamotra, S., Yadav, S., **Chatterjee, S.**, Tandon, A. Particulate bound polycyclic aromatic hydrocarbons over Dhauladhar region of the north-western Himalayas. *Chemosphere (Elsevier)*, 2021, 263: 128298 [2019 IF: 5.77].
- 31. Sharma, S^{\dagger} ., Sharma, S^{\dagger} ., Ahmed, M., Akhter, Y^{*} ., **Chatterjee**, S^{*} . Ornithine carbamoyltransferase from psychrophiles to thermophiles structural evolution of catalytic fold to accommodate physiological diversity. *Extremophiles (Springer)*, **2021**. [2019 IF: 2.46]. [DOI: 10.1007/s00792-020-01208-7].
- 30. Sharma, S., Sharma, V., **Chatterjee**, **S***. Microplastics in the Mediterranean Sea: Sources, Pollution Intensity, Sea Health and Regulatory Policies. *Invited Review-Communicated*.
- 29. Biodegradation of Organophosphorus pesticide Profenofos by *Bacillus* sp. PF1 and preliminary pathway interpretation. *Invited Article-Communicated*.
- 28. Mahajan, R., Chandel, S.[†]., Verma, S.[†]., **Chatterjee, S.**^{*}, Organophosphate pesticide: usage, environmental exposure, health effect, and microbial bioremediation. <u>Book Chapter</u> in the book "**Microbial Biodegradation and Bioremediation**" (*Elsevier*). ISBN: 978-0-12-800021-2. *Invited book Chapter-Communicated*.

2020:

- 27. Verma, S., Singh, D., **Chatterjee**, **S***. Biodegradation of Organophosphorus pesticide chlorpyrifos by *Sphingobacterium* sp. C1B, a psychrotolerant bacterium isolated from apple orchard in Himachal Pradesh of India. *Extremophiles (Springer)*, **2020**, 24: 897–908 [2019 IF: 2.46].
- 26. Kushwaha, M., **Chatterjee**, **S***. Flouroquinolone Antibiotics: An emerging threat to Environment and their remedial measures. *Current Science (IAS, India)*, **2020**, 119: 738-740 [2019 IF: 0.725].
- 25. **Chatterjee S.***, Tandon A*. Climate Change Impact on Eco-biology and Socio-economy—A Concise Discussion. <u>Book Chapter</u> in the book In: Roy N., Roychoudhury S., Nautiyal S., Agarwal S., Baksi S. (eds) **Socio-economic and Eco-biological Dimensions in Resource use and Conservation**. Environmental Science and Engineering. Springer. **2020**, pg. 527-546, (Springer, ISBN 978-3-030-32462-9), Online: 28th January, 2020. DOI:https://doi.org/10.1007/978-3-030-32463-6_25.
- 24. Verma, S., Singh, D., **Chatterjee**, **S***. Malathion biodegradation by a psychrotolerant bacterium *Ochromobactrum* sp. M₁D and interpretation of degradation pathway- A preliminary study. **2020**. *Communicated*.
- 23. Verma, S., **Chatterjee**, S^* . Biodegradation of Profenofos, an acetylcholine esterase inhibitor by a psychrotolerant strain *Rahnella* sp. PFF2 and degradation pathway analysis. **2020**. *Communicated*.
- 22. Verma, S^{\dagger} ., Mahajan, R^{\dagger} ., **Chatterjee**, **S** * . A critical review of organophosphates Malathion usage, health effect, bioremediation and evaluation of role of enzymes in the detoxification process. **2020**. *Communicated*.

2019:

- 21. Sharma, M., Akhter, Y*., **Chatterjee**, **S***. A Review on Remediation of Cyanide containing Industrial wastes using biological systems with special reference to Enzymatic Degradation. *World Journal of Microbiology and Biotechnology*, (*Springer*), 2019, 35:70 [2019 IF: 2.47; Citation: 10]
- 20. **Chatterjee**, **S***., Sharma, S. Microplastics in our Oceans and Marine Health. Invited review in the special issue (Facts Reports) on "Plastics in the economy, health and environment" published by Veolia Institute (a think tank for the Veolia Environment company), France. *Field Actions Science Reports*, Special Issue 19 | **2019**, 54-61. (**both in English and French**) [Citation: 20]
- 19. Mahajan, R., Verma, S[†]., Kushwaha, M[†]., Singh, D., Akhter, Y^{*}., **Chatterjee**, **S**^{*}. Biodegradation of di-n-butyl phthalate by psychrotolerant *Sphingobium yanoikuyae* strain P4 and protein structural analysis of carboxylesterase involved in the pathway. *International Journal of Biological Macromolecules (Elsevier)*, **2019**, 122:806-816 [2019 IF: 5.16; Citation: 07]
- 18. Mahajan, R., Chandel, S., Chatterjee, S., Environmental fate of organophosphate residues

from agricultural soils to fresh farm produce: Microbial interventions for sustainable bioremediation strategies. <u>Book Chapter</u> in the book "**Microbes and enzymes in soil health & Bioremediation**" (*Springer Nature*) of "Springer Series on Microbes for sustainability". **2019.** (Springer, ISBN: 978-981-13-9116-3), Online: 24th November, 2019. DOI:10.1007/978-981-13-9117-0_9. [Citation: 01]

<u> 2018:</u>

- 17. Mahajan, R., **Chatterjee**, **S***. A simple HPLC-DAD method for simultaneous detection of two organophosphates profenofos and fenthion and validation by microcosm experiment. *Environmental Monitoring and Assessment (Springer)*, **2018**, June 2018, 190:327. [2019 IF: 2.1; Citation: 09]
- 16. Kushwaha, M., Virender K, Mahajan, R., Bhalla, T.C., **Chatterjee**, **S***., Akhter, Y*. Molecular insights into the activity and mechanism of cyanide hydratase enzyme associated with cyanide biodegradation by *Serratia marcescens*. *Archives of Microbiology (Springer)*, **2018**, 200:971-977. [2019 IF: 1.88; Citation: 02]
- 15. Sharma, S., **Chatterjee**, **S***. Psychrotolerant *Sphingobacterium kitahiroshimense* LT-2 isolated from Dhundi Glacier, Himachal Pradesh Origin Prediction and Future application. *Indian Journal of Microbiology (Springer)*, **2018**, 58(2):234–238. [2019 IF: 1.83; Citation: 01]
- 14. **Chatterjee**, **S.*** Environmental ethics a forgotten principle: necessity and our responsibility. <u>Book Chapter</u> in an edited Book entitled "Skill Development in Higher Education". **2018** (ISBN: 978-81-7975-939-4, India).

<u> 2017:</u>

13. Sharma, S., **Chatterjee**, **S***. Microplastic Pollution, a Threat to Marine Ecosystem and Human Health: A Short Review. *Environmental Science and Pollution Research*, (*Springer*), 2017, 24:21530–21547. [2019 IF: 3.05; Citation: 182]

<u> 2016:</u>

- 12. Kushwaha, M.[†], Verma, S.[†], **Chatterjee**, **S**^{*}. Profenofos, an acetylcholinesterase-inhibiting organophosphorus pesticide: a short review of its usage, toxicity and biodegradation. *Journal of Environmental Quality*, (*SSSA*), 2016, 45:1478-1489. [2019 IF: 2.14; Citation: 19].
- 11. **Chatterjee**, **S.**, Yi, K., Splivallo, R., Chatterjee, P., Karlovsky, P. Interactions among Filamentous Fungi *Aspergillus niger*, *Fusarium verticillioides* and *Clonostachys rosea*: Effect on Fungal Biomass, Diversity of Secondary Metabolites and Fumonisin Production. *BMC Microbiology*, *(BMC)*, **2016**, 16:83. [2018 IF: 3.287; Citation: 27].

2014:

10. Jousset, A., Becker, J., Chatterjee, S., Karlovsky, P., Scheu, S., Eisenhauer, N. Biodiversity and species identity drive antifungal activity of bacterial communities. *Ecology* (esa), 2014,

95:1184. [2018 IF: 4.285, Citation: 43]

2013:

9. Döll, K.[†], **Chatterjee**, **S.**[†], Scheu, S., Karlovsky, P., Rohlfs, M. Fungal metabolic plasticity and sexual development mediate induced resistance to arthropod fungivory. *Proceedings of the Royal Society B*, **2013**, 280:20131219. [† Equal contribution] [2018 IF: 4.304; Citation: 65]

2010:

- 8. **Chatterjee**, **S***., Karlovsky, P. Removal of the endocrine disrupter Butyl benzyl phthalate from the environment: Mini review (*corresponding author). *Applied Microbiology and Biotechnology*, (*Springer*), **2010**, *June*;87(1): 61-73. [2019 IF: 3.53; Citation: 42]
- 7. **Chatterjee**, **S.**, Das, S.K., Chakravarty, R., Chakrabarti, A., Ghosh, S., Guha, A.K. Interaction of malathion, an organophosphorus pesticide with rhizopusoryzae biomass. *J Hazard Materials*, (*Elsevier*), **2010**, *Feb* 15; 174(1-3), 47-53. [2019 IF: 9.03; Citation: 67]

<u> 2008:</u>

- 6. **Chatterjee**, **S.**; Dutta, T.K. Metabolic cooperation of *Gordonia* sp. Strain MTCC 4818 and *Arthrobacter* sp. strain WY in the utilization of butyl benzyl phthalate: Effect of a novel coculture in the degradation of mixture of phthalates. *Microbiology (SGM-UK)*, **2008**, *Nov*; 154(*Pt II*), 3338-3346. [2019 IF: 2.1; Citation: 26]
- 5. **Chatterjee**, **S.**; Dutta, T.K. Complete degradation of butyl benzyl phthalate by a defined bacterial consortium: Role of individual isolates in the assimilation pathway. *Chemosphere*, *(Elsevier)*, **2008**, *Jan*; 70(5), 933-941. [2019 IF: 5.77; Citation: 51]

2007:

4. Mallick, S., **Chatterjee**, **S.**, Dutta, T.K. A novel degradation pathway in the assimilation of phenanthrene by Staphylococcus sp. strain PN/Y via meta-cleavage of 2-hydroxy-1-naphthoic acid: formation of trans-2,3-dioxo-5-(2'-hydroxyphenyl)-pent-4-enoic acid. *Microbiology* (*SGM-UK*), **2007**, *Jul*; 153(*Pt* 7): 2104-2115. [2019 IF: 2.1; Citation: 112]

2005:

3. **Chatterjee**, **S.**, Mallick, S., Dutta, T.K. Pathways in the degradation of hydrolyzed alcohols of butyl benzyl phthalate in metabolically diverse *Gordonia* sp. strain MTCC 4818. *J. Mol. Microbiol. Biotechnol.* 2005, *9*(2), 110-120. [2019 IF: 0.8; Citation: 16]

2003:

2. **Chatterjee**, **S.**, Dutta, T.K. Metabolism of butyl benzyl phthalate by *Gordonia* sp. strain MTCC 4818. *Biochem. Biophys. Res. Commun*, (*Elsevier*), 2003, *Sep* 12; 309(1), 36-43. [2019 IF: 2.98; Citation: 112]

2002:

1. Chatterjee, M., **Chatterjee**, **S.**, Basu Roy, M., Ghosh, S., Bandyopadhyay, P., Bharadwaj, P.K. Photophysical properties of tris-methoxycoumarin derivative of a cryptand. *J. Luminescence*, *(Elsevier)*, **2002**, *99*, 175-183. [2019 IF: 3.28; Citation: 11]



	TOTAL
Citations	823
h-index	13
i10- index	15

Research Projects Completed/Ongoing:

Research Projects (Ongoing)

(i) **ICMR** funded project on "Development of 5-LOX specific scoring function and application of fragment based free energy methods for the development of novel anti-cancer drug candidates":- ~87.15 Lakh for 3 years [2019-2022] (Co-PI)

Research Projects (Completed)

- (i) **Mentorship** for the **SERB-DST** funded research project for 'National Post-Doctoral Fellowship Scheme' (NPDF) on 'Qualitative analysis of secondary metabolites produced by psychrophilic microorganism(s) isolated from Chhota Sigri glaciar, Himachal Pradesh":- ~19.2 Lakh, for 2 years [2016-2018]
- (ii) **CSIR-EMR** funded Research Project (No. 24(0341)/16/EMR-II) on "Biodegradation of Profenofos and Fenthion pesticides role of microbial isolate(s) and determination of degradation pathway(s)". (**PI**); ~28 Lakh for 3 years 8 months [2016-2020]; Instrument sanctioned: Gas Chromatography with ECD & NPD;
- (iii) Completed successfully an international project, titled, "Metabolic profiling of chemical interactions among fungi", funded by **Alexander von Humboldt Foundation**, Germany [€72,000 research grant].

MPhil/PhD Supervised/Supervising:

Research Guidance

Ph.D.: (Awarded: o1) – 1. Ms. Shalini Varma (Awarded on 08.10.2020): Bioremediation study of selected organophosphorus pesticides by microbes isolated from orchards of Himachal Pradesh.

Ph.D.: (Ongoing: 03) – 2. Ms. Madhulika Kushwaha (Joined 2014; UGC-JRF, 2015; SRF 2017): Remediation of endocrine disrupting chemicals by using soil microbial isolates of Western

Himalayan region; **3. Ms. Priyanka Choudhary** (Joined 2020; M.Sc.): Isolation of psychrotolerant strains from higher Himalayas and exploring their biotechnological applications. **4. Ms. Sunidhi Bhatt** (Joined 2020; CSIR-NET, 2018): Bioremediation of Fluoroquinolone antibiotics and metabolic pathway analysis

Post Doc: **o2** (Completed) – 1. Dr. Shivika Sharma, (Ph.D. HPU, Shimla)-SERB-DST-NPDF (2016-18); 2. Dr. Rishi Mahajan (Ph.D. Dr Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan, H.P.)- CSIR-EMR Project RA (2016-18)
Study area: (I) Psychrophilic bacteria isolated from Himalayan Glaciers and their metabolic finger printing. (II) Bioremediation of organophosphorus pesticides.

M.Sc. Project guidance: 37 (completed); 04 (Running);

Community Project guidance (UG): 56 (completed).

Participation in Seminars/Conferences:

<u>Presentation/Invited Lectures/Orientation Program/Refresher course</u>

- Successfully completed Faculty development program (Online-FDP) organized by Ramanujan College, Delhi University during 18-5-2020 to 3-6-2020.
- Delivered a Lecture at GCTE Dharamshala in the teacher's training workshop on the topic "Role of Teachers in Swachh Bharat Abhiyan" on 21st February, 2020.
- ➤ Delivered a Lecture in Humboldt Kolleg 2020-@Raichak, Kolkata organized by Jadavpur University and sponsored by Alexander von Humboldt foundation Germany on the topic-"Microplastics in our food: Human health effect and future threat!" during 3-5 January, 2020.
- ➤ Poster presentation in International Conference "Humboldt Colloquium Bengaluru 2017" on the topic: "Utilization of Microbial Metabolism for Pollution Abatement and Qualitative analysis of secondary metabolites produced by psychrophilic microorganism(s)", 23-25 November, 2017.
- ➤ Delivered a Lecture at Institute for Social and Economic Change (ISEC), Centre for Ecological Economics and Natural Resources (CEENR) Bengaluru on the topic "Contemporary environmental issues....Ethics, Challenges and way forward"; November, 2017.
- ➤ Delivered Lecture(s) and successfully conducted one day Training-cum-Workshop/seminar of SWM (Solid Waste Management) on October 11th of 2017 under the project IDIPT-HP/CBTo4 (WAPCOS A government of India Undertaking) Under the Ministry of Water Resources, River Development and Ganga Rejuvenation.
- ➤ Poster presentation in National Seminar on "Emerging Trends in Environmental Science

- and Technology" (ETEST-17) at CUHP, Dharamsala on the topic: Microbes in Glacial Environment: A case study of Dhundi Glacier, Manali, HP by Riju Parmar, Shivika Sharma, Anurag Linda and **Subhankar Chatterjee***; 24th August, 2017.
- ➤ Chaired the technical session and also delivered a Lecture in National Conference on Role of Biological Sciences in Sustainable Development & Biodiversity Conservation Sponsored by NITI Aayog, GOI & organized by Dept. of Biosciences & Biotechnology, Arni University, Kathgarh, HP, during March 9-10, 2017 on the topic "Role of Metabolomics research in sustainable development.
- ➤ Delivered a Lecture on Science day-2017 in CUHP on the topic "Why do we do Research"; 28th Feb, 2017 in One day seminar jointly organized by Dept. of Environmental Sciences and Computational Biology Department of CUHP.
- ➤ Successfully conducted one day Training-cum-Workshop of SWM (Solid Waste Management) on May 22nd of 2016 under the project IDIPT-HP/CBTo2 (Infrastructure Development Investment Program for Tourism Himachal Pradesh Community Based Tourism Dhameta Cluster. A significant project assisted by the ADB (Asia Development Bank) under community interaction program.
- ➤ Delivered a Lecture and presented a paper in National Seminar on Higher Education in Skill Development, organized by Deen Dayal Upadhyay KAUSHAL Kendra, Central University of Himachal Pradesh during March 29-30, 2016, on the topic "Environmental Ethics a forgotten principle: Necessity and our responsibility"
- ➤ Successfully completed 1st Interdisciplinary course in Contemporary Studies (Refresher Course) at Human Resource Development Centre, Jawaharlal Nehru University, New Delhi during 8-2-2016 to 4-3-2016.
- ➤ Delivered a Lecture at Presidency University Kolkata, WB on the topic "Biological significance of microbe-microbe interactions: Metabolomics approach"; January, 2016
- ➤ Delivered a Lecture at Vidyasagar College for Women, Kolkata, WB on the topic "Environmental Ethics- A forgotten principle"; January, 2016
- Poster presentation in National workshop on Recent Trends in Environmental sciences and Carbon Management (RTCM-15) at CUHP, Dharamsala on the topic: Remediation of endocrine disrupting phthalates by using soil microbial isolates of Western Himalayan region by Madhulika Kushwaha and **Subhankar Chatterjee***; November, 2015.
- ➤ Poster presentation in National workshop on Recent Trends in Environmental sciences and Carbon Management (RTCM-15) at CUHP, Dharamsala on the topic: Biodegradation of organophosphorus pesticides by utilising microbial Metabolism by Shalini Verma and **Subhankar Chatterjee***; November, 2015.
- ➤ Delivered a Lecture at Molecular Phytopathology and Mycotoxin Research division, Georg-August University Goettingen, Germany on the topic: "Utilization of Microbial Metabolism for Pollution Abatement and Discovery of New Natural Products" on 27th August, 2015.
- > Presented poster on the topic 'Non-targeted metabolic profiling to identify secreted

secondary metabolites specific for fungal-fungal interaction' in Young Investigator's meet-2015 organized by IndiaBioScience, held on 28th March, 2015 to 1st April, 2015 in Srinagar, India.

- ▶ Delivered a Lecture on Science day-2015 in CUHP on the topic "Medicating the Environment Risk of Pharmaceuticals to Wild Life and Ecosystems"; 26th Feb, 2015 in One day seminar jointly organized by Dept. of Environmental Sciences and Computational Biology Department of CUHP.
- Successfully completed 55th Orientation program conducted by UGC-Academic Staff College, Jadavpur University, Kolkata during 15 December, 2014 to 13th January, 2015.
- ➤ Delivered a Lecture in national conference on Implication of Climate Change on Himalayan environment (ICHE-14) at CUHP, Dharamsala on the topic: Species richness and Biodiversity drive the antifungal activity of *Pseudomonas* communities; March, 2014.
- ➤ Poster presentation in national conference on Implication of Climate Change on Himalayan environment (ICHE-14) at CUHP, Dharamsala on the topic: Effects of climate change and Environmental pollution on Himalayan Bioresources A brief discussion by Madhulika Kushwaha and **Subhankar Chatterjee***; March, 2014
- ➤ Delivered a Lecture in 2nd national symposium on nanobiotechnology (NSNB-2013) at IIT Mandi on the topic: Biotechnological relevance of microbe-microbe interactions; December, 2013.
- ➤ Delivered a Lecture at Dept of Environmental Studies, Visva-Bharati, Santiniketan, WB, on the topic: Exploiting microbes for environmental cleanup and biotechnology application; July, 2013.
- Abstract presentation on 35th Mycotoxin workshop in Ghent, Belgium on the topic 'Upregulation of sterigmatocystin and other putative mycotoxins in *Aspergillus nidulans* after feeding damage by *Folsomia candida*' by M. Rohlfs, **S. Chatterjee**, K. Döll, P. Karlovsky and S. Scheu; 22-24 May, 2013.
- Abstract presentation on 35th Mycotoxin workshop in Ghent, Belgium on the topic 'Chemical interactions between *Fusarium verticillioides* and *Gliocladium roseum* involving mycotoxin transformation' by Y. Kuang, **S. Chatterjee**, K. Scherlach, R. Splivallo, P. Chatterjee, C. Hertweck and P. Karlovsky; 22-24 May, 2013.
- ➤ Payal Sharma, Savita Verma, Rita Devi, **Subhankar Chatterjee***. An overview of Artificial Recharge of Ground Water in Himachal Pradesh. Central Ground Water Board, North Himalayan region, Dharamshala, March, 2013. Presentation at Workshop and published paper.
- ➤ Delivered a Lecture at Dept of Pharmacology, School of Medicine, University of Pennsylvania USA on the topic: Standardization of LC Methods for successful Metabolic profiling, October, 2012.
- ➤ Poster presentation in 28th New Phytologist Symposium held at Rhodes, Greece on the topic 'Below ground truffle ecology: spatial and seasonal variability in soil metabolites and fungal biomass within a truffle field' by R. Splivallo, **S. Chatterjee**, P. Karlovsky; 18-21

May, 2012.

- ➤ Delivered a Lecture at Vidyasagar College for Women, Kolkata, WB on the topic "Our stolen Future-the killer Pollutants surround us; December, 2010
- ➤ Delivered a Lecture at Division of Plant pathology and Crop protection, department of crop sciences, Georg-August University, Goettingen, Germany on the topic: Microbial degradation of Phthalate Esters: Biochemical and Molecular Approach, April, 2009.
- ➤ Delivered a Lecture on the topic: "Metabolic profiling of Chemical interactions among fungi" at Network meeting of the Alexander von Humboldt foundation, Muenster, Germany.18-21 Nov., 2008.
- ➤ Delivered a public talk on the topic: "Our Stolen future: Endocrine disruptor around us" at Bose Institute, kolkata, India in one day symposium organized by Bose institute research scholars forum and Dipta memorial symposium committee, September, 2006.
- ➤ Delivered a public talk on the topic: "Arsenic: A global malediction, detrimental effects and biological counteract- Special emphasis on arsenic as endocrine disruptor" at Bose Institute, kolkata in one day symposium organized by Bose institute research scholars' forum and Dipta memorial symposium committee, September, 2005. This presentation was published in a blog www.sosarsenic.blogspot.com on 12 th November, 2009.
- ❖ Attended Humboldt Kolleg in Raichak, Kolkata, organized by AvH Fellows, Jadavpur University and sponsored by AvH, Germany, 13-15 January, 2017.
- ❖ Attended symposium in Philadelphia, USA organized by Phenomenex based on the topic: HPLC/UHPLC method development related to small molecules; November, 2012.
- ❖ Attended conference at Center for Targeted Therapeutics and Translational Nanomedicine, Perelman School of Medicine, University of Pennsylvania USA, November, 2012.
- ❖ Attended conference at Translational Research Center, Systems Pharmacology and Translational Medicine, Perelman School of Medicine University of Pennsylvania, October, 2012.

Membership of Learned Societies/ Professional Bodies:

- 1. Life member of Alexander von Humboldt Foundation, Germany.
- 2. Board of Studies members Dept. of Environmental Sciences
- 3. School Board Member School of Earth and Environmental Sciences, CUHP.

Awards & Honours Received:

- Received Travel grant from Sir Dorabji Tata Trust, Mumbai, India to travel Germany for pursuing research as Alexander von Humboldt Revisit Research Fellow (2015).
- Alexander von Humboldt Revisit Research Fellowship (Germany) for 3 months (16th June, -15th September, 2015).

- Selected as Young Investigator, (one of the 39 candidates selected from All over India) in Young Investigator's meet-2015 organized by IndiaBioScience, held on 28th March, 2015 to 1st April, 2015 in Srinagar, India.
- Biomedical postdoctoral Fellowship, University of Pennsylvania (USA) (2012)
- DFG (Germany) Post-doctoral Research Fellowship (2011-2012)
- Alexander von Humboldt Research Fellowship (Germany) (2008-2010)
- DST (India)-Post-doctoral Research Fellowship (2007-2008)
- DST-Junior & Senior Research Fellowship (2002 2007)
- CSIR project Fellowship (2000-2002)
- Qualified National Eligibility Test (NET-LS, 2001) conducted by CSIR, Govt. of India
- Qualified Graduate Aptitude Test in Engineering (GATE, 2000) conducted by IIT, HRDG, Govt. of India
- Selected as lecturer in Chemistry at Techno India Engineering College (an AICTE approved college), Kolkata, (February, 2008) [offer declined]
- National Scholarship (1991) Awarded by Government of India for securing a position in top 100 (82nd) out of 0.3 million students in a state level grade 10 examination.

Others:

Reviewer for International journals

Chemosphere (Elsevier); Journal of Environmental Management (Elsevier); PLOS One; BMC Microbiology; Ecotoxicology and Environmental Safety (Elsevier); Environmental (Elsevier); Reviews of Environmental Contamination and Toxicology; Archives in Microbiology (Springer); Biotechnology and Bioprocess Engineering (Springer); Environmental Health Perspective (NIH); Environmental and Experimental Botany (Springer); Plant Ecology (Springer); Science of the Total Environment (Elsevier); Environmental Monitoring Assessment (Springer); **Process** Biochemistry (Elsevier); Environmental Toxicology and Pharmacology (Science Direct); Engineering Management Environmental and **Journal** (Romanian); Polish Journal of Environmental Studies.

Teaching interest:

Environmental chemistry; Environmental Ethics; Environmental pollution and human health; Bio-analytical Techniques; Contemporary environmental issues; Bioresources and environmental biotechnology; Waste management; Structural insight into microbe-microbe interaction and secondary metabolites production; Analytical Chemistry/Techniques (basic and advance course); Thermodynamics and chemical equilibrium; Advanced Instrumentation Laboratory; Chemical Kinetics; Classical & Statistical Thermodynamics; Chemical kinetics &

Reaction dynamics; Surface Chemistry; Molecular spectroscopy, structure & properties; Physical methods of analysis and structure determination.

Collaborative Partners (Research)

A) Dr. Yusuf Akhter

Assistant Professor, Department of Biotechnology, Babasaheb Bhimrao Ambedkar University, Vidya Vihar, Raebareli Road, Lucknow, Uttar Pradesh 226025, India

B) Dr. Dharam Singh

Sr. Scientist, Molecular and Microbial Genetics Lab, Biotechnology Division, CSIR-Institute of Himalayan Bioresource Technology, Palampur, District-Kangra, Himachal Pradesh-176061, India

Research Group:

