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Title	Dr.	First Name	DINABANDHU	Last Name	SAHOO	Photograph
Designation		Professor				
Department		BOTANY				
Address (Campus)		Department of Botany, University of Delhi, Delhi-110007				
(Residence)		NIL				
Phone No (Campus)		27666792				
(Residence) optional						
Mobile		9818165197				
Fax		91-11-27666792				
Email		dbsahoo@hotmail.com				
Web-Page		www.algalbusiness.com				
Education		M.Sc, M.Phil, Ph.D				
Subject		Institution		Year	Details	
BOTANY (M.Sc)		UNIVERSITY OF DELHI		1983	Thesis topic:	
BOTANY (M.Phil)		UNIVERSITY OF DELHI		1985	Subjects: Histochemical and Developmental studies on phases of reproduction in a red alga - <i>Centroceras clavulatum</i> (C.Agardh) Montagne	
BOTANY (Ph.D)		UNIVERSITY OF DELHI		1989	Subjects: Histochemical and Ultrastructural studies on <i>Cystoseira indica</i> (Thivy et Doshi) Mairh from Port Okha	
Career Profile						
Organisation / Institution			Designation		Duration	Role
University of Delhi			Professor		2007 – to date	Teaching and Research
Antarctica			First Indian Student Researcher		1987-88	Researcher
Smithsonian Institution, Washington D.C., USA			Visiting Fellow		1992	Researcher
Kochi University, Kochi, Japan			Visiting Fellow		1999-2000	Researcher
University of Connecticut, Stamford, USA			Visiting Fellow		2002	Researcher
Swedish International Development Agency (Sweden)			Management Trainee		2009	International Trainee in Marine Management-Good Governance in practice
Research Interests / Specialization			ENVIRONMENT, BIOTECHNOLOGY, ALGAE & HUMAN AFFAIRS			
<p>MY MAJOR INTEREST IS CARBON SEQUESTRATION, BIOFUEL PRODUCTION FROM ALGAE, MARINE BIOTECHNOLOGY AND MARINE ENVIRONMENT, APPLICATION OF SCIENCE & TECHNOLOGY FOR SOCIETAL BENEFIT.</p>						
Teaching Experience (Subjects/Courses Taught)						

21 YEARS OF TEACHING AND RESEARCH

Honors & Awards

- (i) Conferred, Fellowship of the year Award 2009 by National Environmental Science Academy for outstanding contribution in the field of Marine Environment (The award was presented by Honorable Union Minister of Environment and Forest Minister at New Delhi, India on October 4, 2009)
- (ii) Awarded M. P. Purohit Memorial award for popularization of plant science in the state of Orissa for the year 2009.
- (iii) Awarded International Training Fellowship by Swedish International Development Agency (SIDA) for Marine Management and Good Governance 2009.
- (iv) Biotechnology Overseas Associateship, Department of Biotechnology, Government of India, New Delhi 2002 to visit USA for a period of six months.
- (v) INSA International Exchange Fellowship, 1999-2000 to visit Japan for a period of three months.
- (vi) Young Scientist award by Aus-Aid at 4th Asia-Pacific conference on Agricultural Biotechnology, Darwin, Australia, 1998.
- (vii) Young Scientist Award, 1997.
- (viii) Zahoor Qasim Gold medal, 1997.
- (ix) Recipient of Visiting Fellowship, Smithsonian Institution, Washington D.C., USA, 1992.
- (x) Recipient of Research Associate ship by Council of Scientific and Industrial Research (1989-95).
- (xi) Recipient of Senior Research Fellowship by Council of Scientific and Industrial Research (1987-88).
- (xii) First-ever Indian student participant in 7th Indian Scientific Expedition to Antarctica during 1987-88.
- (xiii) Recipient of National Scholarship (1981-83).

Academic Distinctions

1. First-ever Indian student participant in the 7th Indian Scientific Expedition to **Antarctica** during 1987-88. Undertook two trips to **Arctic** during 1991 and 1992.
2. Visited all the seven Continents within a period of 18 months during 1987-89.
3. Developed "World's **First Carbon Capture Vehicle**".

Publications

Books			
<u>Year of Publication</u>	<u>Title</u>	<u>Publisher</u>	<u>Author</u>
2013	Antarctica: India's journey to the frozen continent	Niyogi Books, New Delhi, India pp. 156.	Qasim S.Z. & Sahoo Dinabandhu
2012	Algal Biotechnology and Environment	I. K. International publishing house Pvt. Ltd. 43-52, New Delhi, India, pp.v+331.	Sahoo Dinabandhu and Kaushik, B.D
2010	<i>Porphyra</i> Harvesting gold from sea	IK.International Publishing House Pvt.Ltd, New Delhi, India, pp.v+93.	Ira A. Levine & Sahoo Dinabandhu
2010	Common Seaweeds of India	IK.International Publishing House Pvt.Ltd, New Delhi, India, pp.vii +196.	Dinabandhu Sahoo
2002	Sustainable Aquaculture	APH Publishing Corporation, New Delhi, INDIA.	Dinabandhu Sahoo S.Z. Qasim
2002	Advances in Marine and Antarctic Science	APH Publications, New Delhi, INDIA.	Dinabandhu Sahoo P.C. Pandey
2001	Seaweeds of Indian Coast	APH Publishing Corporation, New Delhi, INDIA.	Dinabandhu Sahoo, Nivedita & Debasish
2000	Farming the Ocean: Seaweeds Cultivation and Utilization	Aravali Books International, New Delhi, INDIA.	Dinabandhu Sahoo
In Indexed/ Peer Reviewed Journals(Important Publications only)			
<ul style="list-style-type: none"> • Kumar, S., Gupta, R., Kumar, G., Sahoo Dinabandhu, Kuhad, R.C. 2013. Bioethanol production from <i>Gracilaria verrucosa</i>, a red alga in a biorefinery approach. <i>Bioresour. Technol.</i> 135: 150-156 • Roy Ansuman , Sahoo Dinabandhu and Tripathy B. C 2013.Involvement of Phytochrome A in Suppression of Photomorphogenesis in Rice Seedling Grown in Red Light. Plant ,Cell & Environment.Accepted manuscript online: 18 MAR 2013 DOI: 10.1111/pce.12099 • Sahoo Dinabandhu, Elangbam, G and Devi, S.S. 2012. Using algae for carbon dioxide capture and bio-fuel production to combat climate change. <i>Phykos</i> 42 (1): 32-38. • Kumar, G. and Sahoo Dinabandhu 2011. Effect of seaweed liquid extract on growth and yield of <i>Triticum aestivum</i> var. Pusa Gold. <i>J.Appl.Phycol</i> 23:251-255. • Chung, I.K., Beardall, J., Mehta, Sahoo Dinabandhu, D. and Stojkovic, S. 2011. . Using Marine Algae for Carbon Sequestration: a critical appraisal <i>J. Appl. Phycol.</i> 23:877-886. • Sahoo Dinabandhu 2011. Sea Farming: A new model for sustainable livelihood in coastal area. <i>Geography</i> 			

and You. **11(67)**:42-45.

- **Sahoo Dinabandhu** 2010. Algae biofuel will take over *Jatropha* soon. *Biospectrum*. **8(12)**:74-75.
- Baweja. P., **Sahoo Dinabandhu**. 2009. Regeneration Studies in *Grateloupi filicina* (J.V. Lamouroux) C. Agardh-An Important Carrageenophyte and Edible Seaweed. *Algae* 24(3):163-168.
- **Sahoo Dinabandhu** 2009. Chilika's fragile ecosystem needs immediate attention. *Environ* 10(2): 16-19.
- Baweja.P, **Sahoo Dinabandhu**, Pilar GJ and Robaina.R. 2009. Seaweed tissue culture as applied to biotechnology: problems, achievements and prospects. *Phycological Research* 57:45-58.
- Nayak S, Prasanna R, Prasanna BM and **Sahoo Dinabandhu**. **2008**. Genotypic and phenotypic diversity of *Anabaena* isolates from diverse Rice agro-ecologies in India. *J. Basic Microbiol.* 48: 1-13.
- Yang EC, Kim MS, Geraldino PJ, **Sahoo Dinabandhu**, Shin JA and Boo SM. **2008**. Mitochondrial *cox 1* and plastid *rbcL* genes of *Gracilaria vermiculophylla* (Gracilariaceae, Rhodophyta) *J. Appl. Phycol.* 20:161-168.
- Nayak S, Prasanna R, Prasanna BM and **Sahoo Dinabandhu**. **2007**. Analysing diversity among Indian isolates of *Anabaena* (Nostocales, Cyanophyta) using morphological, physiological and biochemical characters. *World. J. Microbiol. Biotechnol.* 23:1575-1584.
- **Sahoo Dinabandhu** and Singh S. **2006**. Thallus regeneration studies in *Cystoseira indica* through tissue culture. *Phytomorphology* .56(3 & 4):157-160.
- **Sahoo Dinabandhu**, Baweja, P. and Kushwah, N., **2006**. Developmental studies in *Porphyra vietnamensis*- a high temperature resistant species from Indian coast. *J. Appl. Phycol.* 18: 279-286.
- Kumari Babita, **Sahoo Dinabandhu**., Susella M.R. **2006**. *Sargassum tenerrimun*: A morphological study of natural and cultural plants. *Phytotaxonomy*. 6 :135-138
- **Sahoo Dinabandhu** and Yarish C., **2005**. Seaweed products find varied commercial, medical applications. *Global Aquaculture Advocate*. 8 (4) : 44-45.
- **Sahoo Dinabandhu** **2005**. Biology, Cultivation and Economics of *Porphyra spp.* In Aquaculture compendium 2005 Edition. CAB International. Wallingford. UK. 1-40.
- Sahoo D., Sahu, N. & **Sahoo Dinabandhu**. **2003**. A critical survey of seaweeds diversity of Chilika Lake, India. *Algae* **18(1)**: 1-13.
- **Sahoo Dinabandhu** & Ohno M., **2003**. Culture of *Kappaphycus alvarezii* in Deep Seawater and Nitrogen enriched medium. *Mar. Sci. Fish. Japan*. **22**: 89-96
- **Sahoo Dinabandhu**, Ohno M. & Masanori H. **2002**. Laboratory, Field and Deep Seawater culture of *Euchuema serra*-a high lectin yielding red alga. *Algae* **17(2)**: 127-133.
- Baweja, P. & **Sahoo Dinabandhu**, **2002**. Structure and reproduction of *Grateloupi filicina*

(Halymineniaceae, Rhodophyta) from Indian coast. *Algae*: **17(3)**: 161-170.

- **Sahoo Dinabandhu**, Tang X. & Yarish C. 2002 .*Porphyra*-the economic seaweed as a new experimental system. *Curr. Sci* **11 (83)**: 1313-1316.
- **Sahoo Dinabandhu** & Ohno M. **2001**. Deep Seawater-New area of research and utilization in 21st century. *J. Ind. Ocean. Stud.* **9 (2)**: 282-286.
- **Sahoo Dinabandhu** & Ohno M. **2000**. Rebuilding the ocean floor-Construction of artificial reefs around the Japanese coast. *Curr. Sci* **78 (3)**: 228-230.
- **Sahoo Dinabandhu** **1998**. Meristoderm in *Cystoseira indica* (Fucales, Phaeophyceae) A structural and functional approach. *Ad. Bios.* **17 (2)**: 99-108.
- **Sahoo Dinabandhu** & Bhalla M. **1997**. Some economic seaweeds of Indian Coasts. *J. Ind. Ocean. Stud.* **4(3)**: 255-266.
- Pasricha S., Vijayaraghavan, M.R. & **Sahoo Dinabandhu** **1997**. Studies on the yield, nature and properties of carrageenan from *Laurencia pedicularoides* Børgs (Rhodophyta). *Seaweed Res. Utiln.* **20 (182)**: 19-22.
- **Sahoo Dinabandhu** & Vijayaraghavan, M.R. **1995**. The Structure and Function of oogonium wall layers in *Cystosiera indica*: A correlative histochemical and ultrastructural study. *Seaweed. Res. Utiln.* **17**: 203-213.
- Holst, P.B., Nielsen, S.E., Anthoni, U., Bisht, K.S., Christophersen, C., Gupta, S.A., Parmar, V.S., Nielsen, P.H., **Sahoo Dinabandhu**, Singh, A. **1994**. Isethionate in certain red Algae. *J. Appl. Phy.* **6**: 443-446.
- **Sahoo Dinabandhu**, Pasricha, S. & Vijayaraghavan, M.R. **1991**. Attaching organs of *Cystoseira indica*: Structure and Ultrastructure. *Seaweed Res. Utiln.* **14(1)**: 9-14.
- **Sahoo Dinabandhu**, **1989**. Carposporophyte and Tetrasporophyte development in *Centroceras clavulatum* (C.Agardh) Montagne : A histochemical approach. *Phykos* **28**: 205-211.
- **Sahoo, Dinabandhu** & Vijayaraghavan, M.R. **1986**. Vegetative and reproductive structures of *Centroceras clavulatum* (C.Agardh) Montagne. *Phykos* **25**: 24-28.
- **Sahoo, Dinabandhu** & Jain, S. **1986**. Development and Histochemistry of Spine in *Centroceras clavulatum* (C.Agardh) Montagne. *Curr. Sci.* **55 (21)**: 1089-1091.

Book chapters

- **Sahoo Dinabandhu**, Kumar, S, Elangbam, G and Devi, S.S. 2012. Biofuel production from algae through integrated biorefinery. In *The Science of Algal Fuels: Phycology, Geology, Biophotonics, Genomics and Nanotechnology* (ed. Gordon & Seckbach). Dordrecht, **Springer** pp 215-230..
- Rocha, A., **Sahoo Dinabandhu**, Ferrer, T., Quintella, C. And Torres, E. 2012. Biodiesel production from

microalgae-A mapping of articles and patent. In *The Science of Algal Fuels: Phycology, Geology, Biophotonics, Genomics and Nanotechnology* (ed. Gordon & Seckbach). Dordrecht, **Springer** pp 283-303.

- Ohno, M., Choi, C.G. and **Sahoo Dinabandhu** 2012. Succession of Seaweeds communities on artificial Reefs and marine ranching in Japan. In *Algal Biotechnology and Environment.*(ed. Sahoo and Kaushik) I. K. International publishing house Pvt. Ltd., New Delhi India 34-42.
- Kumar, G., Baweja. P and **Sahoo Dinabandhu** 2012. Seaweeds: A potential source of Biofertilizer. In *Algal Biotechnology and Environment* (ed. Sahoo and Kaushik). I. K. International publishing house Pvt. Ltd., New Delhi India 43-52.
- Kumar, S. and **Sahoo Dinabandhu** 2012. Seaweeds as a source of Bioethanol. In *Algal Biotechnology and Environment.* (ed. Sahoo and Kaushik). I. K. International publishing house Pvt. Ltd. New Delhi India 101-111.
- Prasanna R, Nayak S, Suresh A, Kaushik B D and **Sahoo Dinabandhu**. 2006.Cyanobacterial Secondary Metabolites-Emerging Trends and Prospects.In: *Microbes Health and environment*(ed. A K Chauhan and A Verma) I.K. International Publishing House Pvt. Ltd, New Delhi. pp 106-118.
- **Sahoo Dinabandhu** 2005. Biology, Cultivation and Economics of *Porphyra spp.* In *Aquaculture compendium 2005 Edition*.CAB International.Wallingford.UK.1-40.
- **Sahoo Dinabandhu**, Sahu N., Sahoo D. & Baweja P., 2005. Marine algae cultivation: Option for sustainable management of Chilika Lake. In: *Aquatic Ecosystems: Conservation, Restoration and Management* (ed. T. V. Ramachandran, N. Ahalya and C.R.Murthy) Capital Publishing,New Delhi.pp278-283.
- **Sahoo Dinabandhu** & Yarish C., 2005. Mariculture of seaweeds and their utilization. In: *Algal culturing techniques* (ed. Robert A. Anderson) Academic Press, USA pp.219-238.
- **Sahoo Dinabandhu** 2002. Towards a blue revolution in the sea. In *Advances in Marine and Antarctic Science* (eds. Sahoo and Pandey). APH publishing corporation, New Delhi, India. pp.1-19.
- Singh S., **Sahoo Dinabandhu** & Vijayaraghavan M.R., 2001. Marine Agronomy in the 21st. century. In: *Algal Biotechnology* (ed. Trivedi P.C.) Pointer Publishers, Jaipur, India. pp. 293-297

Training Manuals

- **Sahoo Dinabandhu** 2011.Training manual manual on cultivation of *Kappaphycus sp.* Department of Botany, University of Delhi, Delhi. India .1-8pp.
- **Sahoo Dinabandhu** 2011.Training manual manual on cultivation of *Sargassum sp.* Department of Botany, University of Delhi, Delhi. India .1-8pp.
- **Sahoo Dinabandhu** 2009. Training manual manual on cultivation of *Porphyra sp.* Department of Botany, University of Delhi, Delhi. India .1-8pp.

- **Sahoo Dinabandhu 2009.** Training manual manual on cultivation of *Gracilaria sp.* Department of Botany, University of Delhi, Delhi. India .1-8pp.

Proceedings, Popular Articles and Edited works

- (i) **Sahoo Dinabandhu** and Dhawan, V. 2012. International Algal Summit “Algae for Sustainable Development” February 21-22, 2012, New Delhi, India. Abstract Book.
- (ii) **Sahoo Dinabandhu 2009.** 7th Asia-Pacific Conference on Algal Biotechnology “Algal Biotechnology in the Asia-Pacific Region: New Challenges and Opportunities for the 21st Century, December 1-4, 2009, University of Delhi, India. Abstract Book.
- (iii) **Sahoo Dinabandhu. 2006.** International Conference on Applied Phycology. “Algae in Biotechnology and Environment” held at University of Delhi, Delhi, India, February 14-15, 2006. Abstract Book.
- (iv) **Sahoo Dinabandhu 2000.** Mariculture of *Eucheumoids* in Indian Coast-Prospects and problems. (Abstract, National symposium on Phycology in the new millennium, March 1-3, 2000, University of Madras, Chennai).
- (v) **Sahoo Dinabandhu 2000.** Tissue culture studies of some tropical seaweeds. (Abstract, National symposium on seaweeds of India: Biodiversity and Biotechnology. September 12-14, 2000, Bhavnagar, Gujarat). Sahoo Dinabandhu, Member editorial Board “The Botanica” vol.35, 36 and 37.
- (vi) **Sahoo Dinabandhu & Singh S.** 1999. Tissue culture studies in *Cystoseira indica*. (Abstract, 2nd European Phycological Congress, September 20-26, 1999 Italy).
- (vii) Sahoo Dinabandhu & Tayal S. 1999. Regeneration studies in *Gracilaria blodgettii*. (Abstract, 8th International Conference on Applied Algology, September 26-October 1, 1999, Italy).
- (viii) **Sahoo Dinabandhu 1998.** Seaweeds cultivation and utilization: New opportunities for fishermen and indigencies at International Seminar on Indian Ocean in the 21st Century: Linkages and Networking.
- (ix) Singh S., Aggarwal A., Malik P. & **Sahoo Dinabandhu 1998.** Algal Flora of Antarctica and Antarctic Ocean at National Symposium on Sustainable Aquaculture.
- (x) Johri A., Tayal S. & **Sahoo Dinabandhu 1998.** *Dunaliella*: A rich source of β -carotene at National Symposium on Sustainable Aquaculture.
- (xi) Koul M., Sharma S. & **Sahoo Dinabandhu 1998.** Seaweeds Cultivation in Indian Coast at National Symposium on Sustainable Aquaculture.
- (xii) **Sahoo Dinabandhu 1997.** Farming the Ocean. Express Pharma Pulse.
- (xiii) **Sahoo Dinabandhu 1995.** Isethionate: A new compound from *Hypnea musciformis* at 8th International Symposium on Marine Natural products.
- (xiv) **Sahoo Dinabandhu 1992.** Cultivation and Utilization of *Gracilaria sp.* from Chilika Lake, Orissa (11th International Seaweed Symposium).

- (xv) **Sahoo Dinabandhu**, Pasricha, S. & Vijayaraghavan, M.R.1991. *Gigartina chamissoi* an important carrageenophyte from peruvian coast (National Symposium on marine Algae-Current Status and Emerging Trends. Andhra University, Andhra Pradesh).
- (xvi) **Sahoo Dinabandhu 1991**. Biomass production through seaweeds cultivation (7th Annual Symposium, Bio-Energy Society of India).
- (xvii) **Sahoo Dinabandhu 1991**. Biology of *Cystoseira indica*: A potential phycocolloids from Indian coast (7th International Phycological Congress).
- (xviii) **Sahoo Dinabandhu 1990**. Ecological changes in the frozen continent: Antarctica (5th International Conference on Ecology {INTECOL}).
- (xix) **Sahoo Dinabandhu 1989**. Biota of the frozen continent-Antarctica (6th National Botanical Conference of Bangladesh Botanical Society).
- (xx) **Sahoo Dinabandhu 1989**. Oogonial release in *Cystosiera indica* (Cystoseiraceae, Fucales). (13th International Seaweed Symposium).
- (xxi) **Sahoo Dinabandhu 1989**. Ozone depletion will cause global climate warming. The Times of India (June 1, 1989).
- (xxii) **Sahoo Dinabandhu 1989**. Life under ozone hole. The Botanica. Vol.39.
- (xxiii) **Sahoo Dinabandhu 1988**. Reproductive Biology of *Centroceras clavulatum*: A histochemical appraisal. (3rd International Phycological Congress).
- (xxiv) **Sahoo Dinabandhu 1987**. Proceedings of a seminar on “Research and Educational Priorities for Environmental Management in India”.

Patents

Developed “**World’s first carbon capture vehicle**” in 2010 for which the following patent applications have been filed:

Sahoo Dinabandhu 2010. Indian patent filed for “**Carbon Dioxide Capture Box**” vide Application No.1395/DEL/2010.

Sahoo Dinabandhu 2011. PCT application filed vide International Application No: PCT/IN2011/000389, Publication number WO2011/158251, Publication Date 22/12/2011, International Filing Date 10/06/2011.

Sahoo Dinabandhu 2013. US patent application filed vide US Patent Application No:13/704,176.

Sahoo Dinabandhu 2013. European patent application filed vide European Patent Application No: 11736172.5.

Note: Expression of Interests (EOI) for the commercialization of the technology has been received from a US based company for which MOU will be signed soon.

Documentary Film

Sahoo Dinabandhu and Roy Choudhary B. 2009. **Chilika: The Untold Story** (A 25 minutes documentary film about Chilika lake and the scientific intervention to provide livelihood). This was the opening film at the 4th National Film Festival on Art & Artists held at Bhubaneswar. The film was also screened in USA, Brazil, Vietnam and a few other countries. To see the preview of this documentary visit <https://www.youtube.com/watch?v=ey2P5hGRjPc>

Resource Person:

- Resource person on “Training on Blue Green Algae: Application in Agriculture and Industry” held at Centre for Conservation and Utilization of Blue Green Algae, Indian Agricultural Research Institute, India, May 13, 2010.
- Resource person on “Refresher course in Life Sciences, UGC-Academic Staff College, University of Calcutta, India, February 1, 2009.
- Key resource person, National workshop on “**Sunderbans Lifeline**” organized by **ABN-AMRO Foundation and NEWS held at Sunderbans**, West Bengal from February 16-17, 2008.
- Resource person on “Two weeks training in plant taxonomy” organized by **Forest Research Institute, Dehradun** Uttarakhand on January 28, 2008.
- Discussion meeting on “**Algal Biofuels: The current status and future potential**” organized by **Confederation of Indian Industry (CII) and Department of Biotechnology, Government of India**, New Delhi, held at New Delhi on December 3, 2007.
- Brain storming meeting on “**Seaweeds and marine microalgae**” to develop a project under **New Millennium Indian Technology Leadership Initiative (NMITLI) by CSIR** held at New Delhi on August 25, 2007.
- Seminar on “**Business opportunities in Marine Biology and Biotechnology**” organized by **Gujarat State Biotechnology Mission (GSBTM)**, Government of Gujarat at Surat and Rajkot during August 22-23, 2007.
- 9th refresher course in Biotechnology organized by **Jawaharlal Nehru University**, New Delhi on August 8, 2007.
- Brain Storming Meeting on “**Biotechnology Options for Natural Resource Management and Improving Livelihood of the SC/ST Population**” jointly organized by **M.S. Swaminathan Research Foundation, Chennai and Department of Biotechnology, Government of India, New Delhi** held at Jeypore, Orissa during July 24-25, 2006.

- Project planning workshop on “Conservation in and around Protected Areas in Partnership with Local Communities” jointly organized by **WWF India, New Delhi and Department of Science and Technology, Government of India, New Delhi** held at New Delhi during July 13-14,2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Thiagarajar College (Autonomous) Madurai,Tamil Nadu on June 14, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Shri AMM Murugappa Chettiar Research Centre, Chennai on June 2, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Loyola College, Chennai on May 31, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at ST. John’s College, Palayamkottai, Tamil Nadu on May 29, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Bharthidasan University, Tiruchirappalli, Tamil Nadu on May 17, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Ashoka Trust for Research in Ecology and Environment(**ATREE**) New Delhi on May 15, 2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Department of Environmental Sciences, University of Pune, Pune on May 12,2006.
- Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Gujarat Council of Science City, Ahmedabad on May 6, 2006.
- Workshop on Bioresources and Biotechnology in Sustainable Development (Bioresource Biotech, 2006) organized by Centre for Environmental Management of Degraded Ecosystem (CEMDE), University of Delhi, Delhi from January 23- February 6, 2006.
- 11th Refresher Course in Life Sciences at UGC Academic Staff College, Jawaharlal Nehru University, New Delhi on January 27, 2006.
- Refresher course at J.N.Vyas University Jodhpur on November 2005.
- UGC-DRS Lecture at Department of Botany, University of Pune October 2005.

- Workshop on Technology Transfer, Research & Development of “Pro-Vitamin A Rice” jointly organized by Department of Biotechnology, Government of India, New Delhi and Swiss Agency for Development and Cooperation, Government of Switzerland held at New Delhi on October 30-31, 2000

Details of research guidance/ Professional consultancy:

Post-Doctoral Fellow guided under my supervision

1. **Dr. B. P. Chamola**-Presently faculty member at HNB Garhwal Central University
2. **Dr. Pranita Jaiswal**-CSIR Pool Officer. Presently, Senior Scientist, ICAR, Ludhiana, Punjab.
3. **Dr. Bindu Sharma**-Women Research Scientist, DST. Presently at Bhubaneswar, Odisha.
4. **Dr. Ira A Levine-Fulbright Fellow**. Presently Professor at University of Southern Maine, USA.
5. **Dr. D. Srikanth**-UGC-DS Kothari Post-Doctoral Fellow at Delhi University.

Ph. D thesis guided under my supervision:

S.No.	Title of the Thesis	Year	Name of the Candidate
1.	Study of biodiversity, ecology and commercially useful chemicals of certain marine algae	2003	Veena Pandey
2.	Studies on Gracilarioids from Chilika lake-structure, development and agar quality	2004	Nivedita Sahu
3.	Light and Electron microscopic studies in four tropical <i>Porphyra</i> species	2006	Sunita Singh
4.	Assessment of diversity of seaweeds of Chilika Lake and their evaluation for commercial exploitation	2006	Debasish Sahoo
5.	Structure and reproduction of <i>Grateloupia lithophila</i> (Rhodophyta) and its evaluation for the commercial exploitation with <i>G. filicina</i> as a source of food and Carrageenan	2006	Pooja Baweja
6.	Inter and Intra specific diversity Analysis of the genus <i>Anabaena</i> using Molecular and Traditional approaches	2007	Saswati Nayak

- | | | | |
|-----|--|------|---------------------|
| 7. | Involvement of phytochrome A in near-etiolation photomorphogenesis in rice (<i>Oryza sativa</i>) | 2008 | Ansuman Roy |
| 8. | Formulation of bacterium consortia for bioremediation of tenary effluents | 2008 | Poonam Sharma |
| 9. | Impact of grazing, epiphytism and lower pH on biomass production of <i>Kappaphycus alvarezii</i> (Doty) Doty ex. P.C. Silva | 2012 | M. Arunjit Singh |
| 10. | Effect of elevated carbon dioxide on growth of selected microalgae and macroalgae | 2013 | Elangbam Geetanjali |
| 11. | Potential of <i>Sargassum wightii</i> and <i>Gracilaria verrucosa</i> two important seaweeds as source of food and fuel through biorefinery approach | 2013 | Savindra Kumar |

Ph.D students presently under guidance: 3

M.Phil thesis guided under my supervision:

S.No.	Title of the Thesis	Year	Name of the Candidate
1.	Diversity in Antarctic Algae	1999	Bhupender Chaudhary
2.	Developmental and Histochemical studies on <i>Grateloupia filicina</i> (Lamouroux) C. Agardh- an important carrageenophyte	2001	Pooja Baweja
3.	Algal Flora of Delhi	2001	Tuisem Shimrah
4.	Vegetative and Reproductive features of <i>Gelidiella acerosa</i> (Forsskl) Feldmann et Hamel-A histochemical analysis	2001	Kumari Preeti Sinha
5.	In vitro culture studies in <i>Porphyra vietnamensis</i> Tanaka et Ho	2004	Neetu Kushwah
6.	Effect of Polyamines on growth and development of some economically important seaweeds of Indian coast"	2006	Babita Kumari
7.	Study of seaweed diversity during pre-Monsoon season at Mandapam Coast	2007	M. Arunjit Singh

- | | | | |
|-----|--|------|------------------|
| 8. | Anatomical and Histochemical studies In <i>Kappaphycus alverazii</i> (DOTY) DOTY EX. P. SILVA | 2007 | Y.Mrinamala Devi |
| 9. | Study of Gracilaria and Gracilariopsis Complex form Chilika Lake, Orissa | 2007 | Vipin Dhama |
| 10. | Developmental and Histochemical Studies in red alga <i>Rhodomenia dissecta</i> Boergesen | 2007 | Savindra Kumar |
| 11. | Astaxanthin production from <i>Haematococcus pluvialis</i> Flotow (Volvocles, Chlorophyta) | 2007 | Sanjiv Kumar |
| 12. | Screening, Isolation and laboratory scale culture of Potential microalgae for Biodiesel production | 2009 | Salam Sonia Devi |
| 13. | Effects of Seaweed extracts on growth and development of wheat | 2009 | Gaurav Kumar |
| 14. | Study of Seaweeds Diversity of Port Okha, Gujarat and their Potential in Paper Industry | 2010 | Priyanka Verma |
| 15. | Study of Algal Flora of River Yamuna in Delhi Region | 2010 | Vivek Chopra |

M.Phil students presently under guidance: 2

Besides the above research scholars I have trained hundreds of fishermen, farmers, Women Self Help Groups, NGOs, students, and entrepreneurs in seaweeds cultivation and processing.

Research projects undertaken

1. Improvement of strains of selective economic seaweeds through tissue culture.
Funding agency: University Grant Commission, New Delhi. 1999-2002.
2. Assessment of diversity of Marine algae of Chilika Lake and their evaluation for phycocolloids.
Funding Agency: Department of science and Technology, Government of India. 1999-2002.
3. Study of diversity ecology and biology of marine algae of Andaman and Nicobar Islands.
Funding Agency: Department of Ocean Development, Government of India. 2000-2003.
4. Culture and cultivation of some economically important seaweeds of Indian coast.
Funding Agency: Seaweeds Biotech Pvt. Ltd., New Delhi. 2002-2003.

- 5 Seed production through protoplast isolation and tissue culture of some economically important seaweeds of Indian coast.
Funding Agency: Department of Biotechnology, Government of India. 2003-2006.
- 6 Evaluation of phycocolloids, polyculture and mass cultivation of species of *Gracilaria* and *Grateloupia*.
Funding Agency: Indian Council of Agricultural Research, New Delhi. 2004-2007.
- 7 Cattle feed production from selective seaweeds of Indian coast. In collaboration with **NDRI, Karnal, Haryana.**
Funding Agency: Indian Council of Agricultural Research, New Delhi. 2005-2008.
- 8 Study of environmental impact of large scale seaweed cultivation at different parts of Indian Coast.
Funding Agency: Department of Science & Technology, New Delhi. 2008-2011.
- 9 Co-ordination of AICP on marine algae cultivation and processing for livelihood generation in Coastal States and Union Territories of India.
Funding agency: Department of Science and Technology, New Delhi. 2008-2011.
- 10 Carbon sequestration by higher plants and algae at elevated CO₂.
Funding agency: Department of Science and Technology, New Delhi. 2008-2011.
- 11 Assessment of diversity of algal flora of Ladakh and their evaluation for defense application
Funding agency: Defense Research and Development Organization 2012-2015.

Travel Experience

The urge to discover more facts to sustain the ideas provided by the laboratory studies were responsible for extensive travels in India and abroad. During these years, I traveled extensively almost all over the Indian coasts and many parts of the world. These travels involved thousands of kilometers of distance covered on foot in far-away remote places often inhospitable areas. This experience was superbly educating in providing me a very valuable vision of the vast spread ecological spectrum of variations extending from **Indian Ocean to Antarctic, Arctic, Atlantic and Pacific Ocean**. This knowledge of the varied habitats of different plant groups was of immense help in gaining insight into the exacting role of the "Organism environment" relationships.

Besides the usual scientific benefits of these travels, I could make useful observations on many aspects of conservation and the existing socio-economic problems of people living in far-away areas in often primitive and poverty stricken areas. This knowledge has been of much help in providing an understanding of

the specific needs for economic development in harmony with nature.

Antarctica

First ever Indian student participant in Indian Antarctic Expeditions.

Youngest Scientist and only Botanist in the team of VIIth Indian Antarctic Expedition. 1987-88

Arctic

1991, 1992

Mauritius

University of Mauritius

1988

Singapore

National University of Singapore
Singapore Botanical Garden

1988, 1998
2007

Australia

Monash University, Melbourne
University of Melbourne, Melbourne
University of Sydney, Sydney
Macquarie University, Sydney
Australian National University,
University of Tasmania, Hobart, Tasmania
Australian Antarctic Division, Kingston
Darwin

1988

2008

Japan

Tokyo University, Tokyo
Polar Research Institute, Tokyo
Nara Women's University, Nara
Reitaku University, Tokyo
Meiji University, Tokyo
Kochi University, Kochi
Nagasaki University, Nagasaki

1988

1990

1991

1992

1996

1999-2000

2002, 2007

Bangladesh

University of Chittagong, Chittagong
University of Dhaka, Dhaka

1989

Canada

University of British Columbia, Vancouver
Montreal

1989

2002

United States of America

State University of New York at Stony Brook,

New York United Nations, New York		
Smithsonian Institution, Washington D.C.		
National Geographic Society, Washington D.C.		1989
University of Washington, Seattle		1990
University of California, Berkeley		1991
University of California, Santacruz		1992
University of California, Santa Barbara		2002
University of California, Los Angeles		
University of Southern California, Los Angeles		
Purdue University, Indiana		
Duke University, Durham, N.C		
University of Alaska, Anchorage		
University of Connecticut, Stamford		
Harvard University, Boston		
Arizona State University		2010
University of Southern Maine		
	Peru, South America	
Ministry of Fisheries, Lima		1989
Ministry of Fisheries, Piura		
	England	
University of London		
Museum of Natural History, London		1989
	Malaysia	
Kualalampur		1990, 2007, 2012
	Thailand	
Srinakarinvrot University, Bangkok		1991
Kasesart University, Bangkok		1996, 2006, 2007
	Philippines	
University of San Carlos, Cebu		
University of Philippines, Dalliman		1991
International Rice Research Institute, Manila		
	Hong Kong	
		1991, 1994
	Switzerland	
University of Geneva, Geneva		1992
United Nations, Geneva		
Lutheran World Federation, Geneva		
University of Zurich, Zurich		
Zurich botanical Garden, Zurich		

Basel		
	Germany	
Frankfurt		1992, 1995, 1999
	France	
University of Western Brittany, Brest CEVA Seaweeds Laboratory, Pleubian St-Malo Paris		1992, 2010
	Netherlands	
Amsterdam		1992
	China	
Beijing University, Beijing		1994
Institute of Marine Biology, Qingdao Laminaria Cultivation farm at Qingdao		2003
Shanghai Fisheries University, Shanghai		
	Portugal	
Lisbon		1995
	Spain	
University of Lalaguna, Tenerife, Canary Islands Institute of applied Algology, Las Palmas, Canary Islands		1995
	Sri Lanka	
Colombo Kandy		1996
	Italy	
Montecatini Terme Florence Pisa Venice Bologna		1999
	Austria	
Vienna		1999
	Turkey	
Istanbul		2001
	Greece	
Aristotle University, Thessaloniki University of Athens, Athens		2001

	U.A.E	
Dubai		2001
	South Korea	
Busan National University, Busan Yosu National University, Yosu Pukyong National University, Busan		2003, 2006
	Norway	
Bergen Oslo		2004
	Sweden	
Stockholm University, Stockholm Swedish Maritime Administration Swedish Environmental Protection Agency Swedish Board of Fisheries Swedish Coast Guard		2004 2009
	Finland	
University of Helsinki, Helsinki		2004
	Denmark	
University of Copenhagen, Copenhagen		2004
	South Africa	
University of Cape Town, Cape Town		2005
	Taiwan	
National Taiwan University, Taipei Green gem Biotech Industry (Manufacturer of <i>Chlorella</i>)		2006
	Indonesia	
Nusa Dua, Bali		2007
	New Zealand	
University of Cantabury, Christ Church Victoria University of Wellington, Wellington Auckland Rotorua		2008
	Vietnam	
Vietnam Academy of Sciences, Hanoi		2009
	Brazil	
Rio de jenero		

Conference Presentations

International

- **Delivered an invited lecture at** Indo-German workshop on advanced material for future energy requirements held at Delhi University, Delhi, India 29th November-1st December 2012.
- **Delivered an invited lecture as a special invitee from India** in “South China Sea 2012: SCS 2012 Sharing Knowledge, Resources and Technology for a Sustainable South China Sea” held at Kualalampur, Malaysia from October 22-26, 2012.
- **Delivered an invited lecture at** Ladakh International Conference on emerging trends on food and health security in cold desert held at DIHAR, Leh, India, September 23-25, 2011.
- Participated in the International workshop on “Climate Change, seaweed and CO₂ sequestration held at Busan, South Korea, February 23-26, 2011.
- Participated in 4th **Algae Biomass Summit** held at Phoenix, Arizona, USA, September 27-30, 2010.
- Participated in International Conference on Dynamics of Rural Transformation in Emerging Economics hosted by Planning Commission, Government of India, Institute for Human Development, India held at National Academy of Agricultural Sciences, New Delhi, India, April 14-16, 2010
- Participated in 5th Summer School in Chemistry (Focus on Food and Environmental Chemistry) held at University of Bahia, Brazil, February 22-25, 2010.
- Participated in 1st DBT-ISTP Indo-Canadian Symposium on Bioenergy, Bioproducts and Green Engineering held at Mumbai, India, January 18-19, 2010.
- Participated in 3rd Asian-Link Workshop on Marine Natural Products and Medicinal Plants organized by DAAD held at New Delhi, India, November 23-25, 2009.
- Successfully completed 2nd phase of International Training in “ **Marine Management-Good Governance in Practice**” organized by Swedish International Development Agency, SIDA held at Hanoi, Vietnam, October 4-10, 2009.
- Participated in Vth **Asian Pacific Phycological Forum** held at Wellington, New Zealand, November 10-14, 2008
- Participated in International Algae Bio Fuel summit held at New Delhi, September 17-19, 2008.
- Participated in **United Nations Framework Convention on Climate change (UNFCC)** held at Nusa Dua, Bali, Indonesia, December 3-14, 2007
- **Convenor**, Mini-Symposium session on “Seaweed Cultivation and Utilization” during 19th **International**

Seaweed Symposium held at KOBE, JAPAN March 26-31, 2007.

- Delivered a **special lecture** during the First International symposium on “**Marine Algae and Global Warming**” held at **The National Assembly of Korea, Seoul**, October 16-19, 2006.
- Attended, **International Conference on “Agriculture for Food, Nutritional Security and Rural Growth” (B. P. Pal Centenary Celebrations)** held at India Habitat Centre, New Delhi, May 25-27, 2006.
- Participated in **Eighth International Phycological Congress held at Durban, South Africa**, August 13-19, 2005.
- Participated in **International policy workshop on Bamboo in Fisheries** held at National Institute of Oceanography, Goa, September 30-October 1, 2004.
- Participated in **XVIII International Seaweed symposium held at Bergen, Norway**, June 20-25, 2004.
- Participated in **International conference and exposition on marine living resources of India for food and medicine** held at Chennai, Tamil Nadu, February 27-29, 2004.
- Participated in **5th Asia-Pacific conference on Algal Biotechnology held at Qingdao, P. R. China**, October 18-21, 2003.
- Participated in **12th Annual PICES meeting held at Seoul, Korea**, October 10-18, 2003.
- **Chairman**, Algal Biotechnology Session, **7th International Phycological Congress, Thessaloniki, Greece**, August 18-25, 2001.
- Participated in **8th International Conference on Applied Algology, Montecatini Terme, Italy**, September 26-October 1, 1999.
- Participated in **2nd European Phycological Congress, Montecatini, Italy**, September 20-26, 1999.
- Participated in **4th Asia-Pacific conference on Agricultural Biotechnology, Darwin, Australia**, July 13-16, 1998.
- Attended **International Symposium on "Trends in Life Sciences"** at School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, December 17-19, 1997.
- Participated in **8th International Symposium on Marine Natural Products held at Tenerife, Canary Islands, Spain**, September 10-16, 1995.
- Participated in **International Symposium on perspectives in Bio-Organic Chemistry** held at New Delhi, India, December 8-9, 1999.
- **Chairman**, Contributed paper session, **5th International Phycological Congress held at Qingdao, China**, June 26-July 2, 1994.
- **Chairman**, Applied Phycology Session, **14th International Seaweed Symposium held at University of Western Brittany, Brest France**, August 16-21, 1992.

- **Chairman, Applied Phycology Session, 4th International Phycological Congress held at Duke University, Durham, North Carolina, USA, August 4-10, 1991.**
- Participated in **Vth International Conference on Ecology (INTECOL) held at Yokohama, Japan, August 29-September 3, 1990.**
- Participated in **13th International Seaweed Symposium held at Vancouver, Canada, August 13-18, 1989.**
- Participated in **6th Botanical Conference of Bangladesh Botanical Society held at Chittagong, Bangladesh, January 18-19, 1989.**
- Participated in **3rd International Phycological Congress held at Melbourne, Australia, August 14-20, 1988.**
- Only Indian delegate in **5th Symposium on Antarctic Biology held at Hobart, Tasmania, August 29-September 3, 1988.**
- Organized and presided over a special function of the **2nd Universal Peace Conference by the United Nations** held at University of Delhi, 1983.

National

- **Delivered Invited Lecture** at National Seminar on current environmental challenges and possible solution. Held at Ramjas College, Delhi, India 15-16 February 2013.
- **Key Note Speaker** in UGC-sponsored National Seminar on New Frontiers in plant science Research for Sustainable Development held at Department of Botany, Pranath Autonomous College, Odisha, February 25-26, 2012.
- **Delivered Invited Lecture** in 99th Indian Science Congress held at Bhubaneswar, India, January 3-7, 2012.
- **Delivered Special Lecture** on Inspiring Agribusiness startups-Entrepreneurship and Innovation organized by ICRISAT, Hyderabad, October 12, 2011.
- **Delivered Special Lecture** at 7th Jammu and Kashmir Science Congress, held at University of Jammu, October 13-15, 2011.
- **Delivered Special Lecture** as a resource person in NTPC Carbon capture and storage workshop organized by NTPC Energy Technology Research Alliance, India, September 27, 2011.
- Participated in CII-NTPC Energy Technology Research Alliance (NETRA) Round Table session on Power Sector: Technologies for Carbon Mitigation held at New Delhi, India, November 30, 2009.
- Attended, Green Biofuels: Technology and Investment Opportunities, Organized by DBT, Government of India and Confederation of Indian Industry (CII) held at New Delhi, November 19, 2009.
- Visited Vivekanand Institute of Biotechnology, Nimpith, West Bengal as an Expert committee team for the

DST Project, Government of India, September 22-23, 2009.

- Attended, Tri-Sector Partnership in Practice (TSP): Government, Business and NGOs, uniting to help rural India face globalization and Climate Change held at New Delhi, India, November 4, 2009.
- Round Table meeting on Carbon Capture and Sequestration organized by Department of Science & Technology, Government of India at Bhopal, Madhya Pradesh January 23-24, 2009.
- Participated in “**National Conference on Current Trends in Algal Biodiversity and Biotechnology**” held at University of Madras, Chennai from Feb. 7-8, 2008.
- Participated in National Seminar on “**Sunderbans Ecosystem: prospects, threats and Management**” organized by Maulana Adul Kalam Azad Institute of Asian studies, Calcutta held at Sunderbans, West Bengal from January 5-7, 2008.
- **Chief Guest and delivered Inaugural Lecture** during 31st Orissa Botanical Society Meeting held at Bhubaneswar, Orissa from February 25-26, 2007.
- **Delivered Valedictory Address** during the Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Thiagarajar College (Autonomous) Madurai, Tamil Nadu on June 14, 2006.
- **Delivered Special Address** during the Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at Loyola College, Chennai on May 31, 2006.
- **Delivered Valedictory Address** during the Vacation Training programme on Bioresources for School Children (Sponsored by National Bioresources Development Board, Department of Biotechnology, Government of India, New Delhi) held at St. John’s College, Palayamkottai, Tamil Nadu on May 29, 2006.
- Participated in the **International Conference on Human Centered Sustainable Development Paradigm (Organized on the occasion of Prof. M. S. Swaminathan’s 80th Birthday)** at Chennai, Tamil Nadu, from August 7-10, 2005.
- **Delivered Special Address** during “Investors’ meet on Biotechnology” jointly organized by Department of Science and Technology, Govt of Orissa, Bhubaneswar and BCIL, New Delhi held at Bhubaneswar, Orissa on July 4, 2005.
- **Co-Chairman**, Technical Session National Seminar on “Untapped Potential of seaweed resources of Tamil Nadu and Scope for gainful employment of Self Help women groups of the coastal poor in seaweed farming” held at Central Marine Fisheries Institute, Mandapam Camp, Tamil Nadu from February 21-23, 2005.

- **Chairman**, Marine Biotech session in workshop on “Biotech potential in Orissa”. February 11-13, 2005.
- Participated in Asian wetland Symposium 2005 on Innovative approaches to sustainable livelihood, Bhubaneswar. February 6-9, 2005.
- **Delivered Plenary Lecture** at International Conference on Conservation, Restoration and Management of Lakes and Coastal Wetlands (Lake 2004) held at Bhubaneswar, Orissa from December 9-13, 2004.
- **Delivered Plenary Lecture** at International Seminar on “Ecotechnology for Sustainable Development (Ecotech 2004)” held at Chennai, Tamil Nadu from October 4-6, 2004.
- Attended, “**Conference on Health and Environment**” organized by Centre for Science and Environment, Delhi held at India Habitat Centre, New Delhi from March 24-25, 2006.
- **Delivered Plenary Lecture** at National Seminar on “Sustainability of Seafood Production: Reflections, Alternatives and Environmental Control” held at National Institute of Oceanography, Goa, February 23-24, 2006.
- **Delivered Plenary Lecture and Chaired a session** at National Seminar on Environmental Biotechnology (Environtech-2003) held at Chennai from December 29-30, 2003.
- Participated in Round Table meeting on “Seaweed Cultivation and Utilization” organized by **National Academy of Agricultural Sciences**, New Delhi on September 12, 2003.
- Participated in International conference on Trends in cellular and molecular biology held at Jawaharlal Nehru University, New Delhi, India March 6-8, 2003.
- Participated in Indo-US workshop and National congress on “Molecular biology and Biotechnological symbiosis” held at Jawaharlal Nehru University, New Delhi, India. March 23-28, 2003.
- **Chairman**, Technical paper session in National symposium on seaweeds of India: Biodiversity and Biotechnology, Bhavnagar, Gujarat, India September 12-14, 2000.
- Participated in National symposium on “Phycology in the new millennium”, University of Madras, Chennai, India, March 1-3, 2000.
- Participated in 7th Annual Symposium of Bio-Energy Society of India held at New Delhi, July 12-13, 1991.
- Participated in workshop on Commercialization of Biotechnology-Role of BCIL Organized by Biotech Consortium India Limited held at New Delhi, May 14, 1991.
- Attended 9th All India Botanical Conference held at Madras, India. December 28-30, 1986.

Summer Institutes, Refresher or Orientation courses attended.

- Completed “Refresher Course for Scientists on Intellectual Property Rights Law in Biotechnology” at Centre for Intellectual Property Rights Research and Advocacy, National Law School, Bangalore from November 14-19, 2005.
- Completed training in extraction of Agar from *Gracilaria* at USA Marine Biological Institute, Kochi University, Japan, June-July, 1996.
- Consultant, Seaweeds project at Ballarpur Industries (Thapar Group) New Delhi, India, April-October 1991.
- Completed training in *Eucheuma* farming, processing and products application at MCPI Corporation, Philippines, February-March, 1991.
- Undertook the first complete survey of Peruvian commercial seaweeds, sponsored by Crosland Tecnica S.A., Peru, September 12-16, 1989.

Total Publication Profile

Books

8

In Indexed/ Peer Reviewed Journals

44

Seminars/Symposia Organized

- **Convenor, International conference on Environment and Human Health** held at Indian National Science Academy, New Delhi, India, November 28-29, 2012.
- **Convenor, International Algal Summit**-held at TERI University, New Delhi, India, February 21-22, 2012.
- **Organised** 3rd and 4th Training Programme on *Sargassum* species and *Kappaphycus alvarezii* Cultivation and Processing in India at Mandapam Coast, Tamil Nadu, India, July 15-17, 2011.
- **Convenor, 7th Asia-Pacific Conference on Algal Biotechnology, Algal Biotechnology in the Asia-Pacific Region: New Challenges and Opportunities for the 21st Century**, held at University of Delhi, Delhi, India, December 1-4, 2009.
- **Organised** First National Workshop and Training Programme on *Porphyra* Cultivation and Processing in India at Shrivardhan, Konkan Coast, Maharashtra, India, August 8-10, 2009.
- **Organised**, First National Training Programme cum Workshop on Cultivation of *Gracilaria* species at Chilika lake, Orissa, India. 5 -7 January, 2009.
- **Convenor, International Conference on Applied Phycology.”Algae in Biotechnology and**

Environment” held at University of Delhi, Delhi, India, 14-15 February 2006.

- **Organizing Secretary**, International Seminar on “Indian Ocean in 21st Century: Linkage and Networking” held at Vigyan Bhavan, New Delhi, February 9-10, 1998.

Public Service / University Service / Consulting Activity

Actively involved in various Rural Development Programme at the grass root level.

Society Positions

- (i) Secretary, Indian Phycological Society, New Delhi, India.
- (ii) Deputy General Secretary, National Environmental Science Academy, New Delhi.
- (iii) Convenor, Alumni Affairs, Department of Botany, University of Delhi, Delhi (1997-2000).
- (iv) President, Delhi University Botanical Society, University of Delhi, Delhi (1987-88).
- (v) Convenor, National Seminar on “Research and Educational Priorities for Environmental Management in India” held on the occasion of World Environment Day, 1987.
- (vi) Member, Editorial Board, “The Botanica” (Magazine of Delhi University Botanical Society), 1985, 1986 and 1987.
- (vii) Member, Central Reception Committee, 73rd Indian Science Congress, 1986.
- (viii) Vice-President, Jubilee Hall students Union, University of Delhi, 1984-85.

Membership in National Agencies/Bodies:

- **Member, Task Force** Department of Science & Technology, Government of India, New Delhi. **2006-08** and **2013-16**.
- **Member**, Research and Recognition committee in Botany, University of Pune, Pune, 2006-08.
- **Expert Committee member** for Tsunami Rehabilitation Programme organized by Ministry of Agriculture on 21st January, 2005.
- **Appointed Nodal Officer** by Department of Fisheries Government of Orissa for seaweed cultivation wef February 2005.
- **Member**, Advisory Committee on Biotechnology Government of Orissa w.e.f. May 2005.
- **Chairman Advisory Committee**, National Marine Biotechnology Park, Government of Orissa w.e.f. June 2005.

Membership in International Agencies/Bodies:

- **Member**, Asian Network for using Algae as a CO₂ Sink, w.e.f. 2006-present.

- **Member, Executive council**, Asia-Pacific Society for Applied Phycology 2009-2012.
- **Member**, International Organizing Committee (IOC) for the 7th, 8th, 9th and 10th International Phycological Congress.

Professional Societies Memberships

- (i) International Phycological Society.
- (ii) International Seaweed Association.
- (iii) Phycological Society of India (Life Member).
- (iv) Seaweed Research and Utilization Association (Life Member).
- (v) Indian Botanical Society (Life Member).
- (vi) Society of Biosciences (Life Member).
- (vii) Delhi University Botanical Society (Life Member).
- (viii) International Society of Plant Morphologists (Life Member).

Other Details

PRESENTLY INTERESTED IN APPLICATION OF SCIENCE AND TECHNOLOGY FOR SOCIETAL BENEFIT.

(Signature of Faculty Member)

(Signature & Stamp
of Head of the Department)