



CURRICULUM VITAE

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Educational qualifications:

Degree	Year of passing	University	Subjects studied	Division obtained
Post doctoral	1997 Dec to 1998 Dec.	Swedish Uni.of Agri. Sciences, Uppsala.	Plant-microbe* interaction	-
Ph.D	1990	Bhavnagar Gujarat	Plant-microbe** interaction	-
M.Sc.	1985	Sardar Patel, Gujarat	Botany with plant pathology specialization	First
B.Sc.	1982	Kerala, Kerala	Botany (main) Biochemistry & Zoology (sub)	First

Topic of research

* Improved Legume production by Interaction Between Rhizobia and Plant Growth-Promoting Rhizobacteria.

**Studies on Rhizobacteria of Some Crop Plants with Special Reference to Plant Growth-promoting Rhizobacteria (PGPR).

Research experience:

Twenty three years research experience in the area of plant pathology viz. Use of plant growth-promoting rhizobacteria and/or with *Rhizobium* for crop improvement and disease control, Biological control of plant diseases and insect pests through rhizobacterial strains with an emphasis on tea plantations; Induced disease resistance through beneficial rhizobacterial strains in pigeon pea and tea; Isolation and identification of bioactive metabolites from rhizobacteria; Structural elucidation of the promising bioactive compounds from plant growth promoting rhizobacteria; Application of PGPR strains and their formulations for decontamination and development of vegetation in crude oil contaminated areas near drill sites, soil overburden with open cast coal mining, plant health management in tea plantations contaminated with crude oil spillage and use of PGPR strains for the bioconversion of organic compounds to novel drugs are the other area of interest..

Teaching experience:

Taught the following subjects to Post-Graduate students for one and half years: 1.Mycology and Plant Pathology 2.Plant Biotechnology 3.Environmental Biology.

Countries visited:

Belgium, Canada, Denmark, Germany, Italy, Japan, Norway and Sweden.

Special training in abroad laboratories:

1. Training on Novel biotechnologies for biocontrol agent enhancement and management by NATO-Advanced Study Institute at Borgo Hotel Le Terre del Verde, Gualdo Tadino (Perugia), Italy.
2. Techniques in formulation of *Rhizobium*-PGPR for crop improvement with special reference to pea - from Dr. Anna Martensson's lab at Swedish University of Agricultural Sciences, Uppsala, Sweden.
3. Advanced training in the biological and chemical characterization of bioactive compounds from rhizobacteria and their possible use in agriculture and medicine - from Prof. Winkelmann's lab at University Tuebingen, Germany.
4. Special training in molecular biology techniques related to the induced disease resistance in plants through beneficial rhizobacteria - from Prof. Jacques Dommès lab at University of Liege, Belgium.
5. Advanced training in use of various immunofluorescence techniques in the localization of introduced rhizobacteria from plant roots and rhizosphere - from Dr. J.W.L. van Vuurde, Research Institute for plant protection (IPO-DLO), Wageningen, Netherlands.
6. Special training in DNA based identification of microorganisms with special reference to mycorrhiza through PCR amplification, RFLP techniques and sequencing of the amplified RFLP fragments - from Dr. Ola Karen's lab at Swedish University of Agricultural Sciences, Uppsala, Sweden.
7. Attended two short-term courses on information technology - conducted by the Ultuna library of Swedish University of Agricultural Sciences, Uppsala, Sweden.

Special training in Indian laboratories

1. CD- Based Integrated Pest Management Training Course – from International Rice Research Institute, Manila held at Assam Agricultural University, Jorhat
2. Training on the various classical and molecular techniques on fungal taxonomy – from the MTCC Division of Institute of Microbial Technology, Chandigarh.
3. Training on the application of Electrophoresis techniques in identification of bioactive compounds – from Electrophoresis Research Institute, Yercaud, Salem.
4. Training on the separation of bioactive metabolites from Plant Growth Promoting Rhizobacteria through HPLC techniques – from the Training Division of Waters (India) Pvt. Ltd., Bangalore.

R& D projects handling at present:

1. As **Principal Investigator** - 'Restoration of oil and oily sludge contaminated soil through microbial formulations' - CSIR sponsored Network project - Co-ordinated by NEERI, Nagpur
2. As **Principal Co-investigator** – An approach for reclamation of drill sites by developing vegetation for environmental protection - sponsored by Regional SHE, Eastern Region, ONGCL, Sivasagar, Assam.
3. As **Co-investigator** – 'Exploration, documentation, screening of microbial bio-resources of Indo-Burma hot zone and their potential application' - CSIR sponsored in-house project.

R&D Projects completed:

1. As **Principal Investigator** - 'Isolation, identification and structural elucidation of bioactive compounds produced by plant growth promoting rhizobacteria (PGPR) and their application in agriculture improvement' - sponsored by Department of Science and Technology, Government of India, New Delhi.
2. As **Principal Investigator** - 'Development of induced systemic resistance against brown rot fungus *Fomes lamoensis* in tea (*Camellia sinensis* L (O) Kuntze) through plant growth promoting rhizobacteria (PGPR)' - sponsored by Department of Biotechnology, Government of India, New Delhi.

3. As **Principal Investigator** - 'Antifungal, antibacterial metabolites from plant growth promoting rhizobacteria and their application in biological control of fungal and insect pest on tea cultivation' - CSIR sponsored in-house project
4. As **Principal investigator** - 'Utilization of soil microorganisms for aid in agriculture, environmental pollution, biocontrol (insect, fungal and weed) and soil fertility' - CSIR sponsored in-house project.
5. As **Principal Co-investigator** - 'Improved biomass production in Som (*Machilus bombycina*) through molecular markers and plant growth promoting rhizobacteria (PGPR) and their application in muga culture' - sponsored by Department of Science and Technology, Government of India, New Delhi.
6. As **Principal Co-investigator** - 'Development of vegetation protocol in the crude oil contaminated drill sites near Geleky' - sponsored by Regional SHE, Eastern Region, ONGCL, Sivasagar, Assam.
7. As **Principal Co-investigator** - 'Maintenance and scientific monitoring of vegetation developed by RRL Jorhat at Geleky towards the north of well site G#87' - consultancy project sponsored by Regional SHE, Eastern Region, ONGCL, Sivasagar, Assam.
8. As **Co-investigator** - 'Reclamation of drill sites through application of bioformulation' - sponsored by Oil Industry Development Board, Government of India, New Delhi.
9. As **Co-investigator** - 'Exploration and exploitation of microbial wealth of India' - CSIR sponsored Network project - Co-ordinated by IMTEC, Chandigarh.
10. As **Co-investigator** - 'Remediation and management of coal mining waste land of North eastern coal field, Margherita' - CSIR sponsored network project - Co-ordinated by NEERI, Nagpur
11. As **Co-investigator** - 'An Approach for reclamation of drill sites by developing vegetation for environmental protection' - sponsored by Regional SHE, Eastern Region, ONGCL, Sivasagar, Assam.
12. As **Co-investigator** - 'Bacterial mediated metal transport factor (siderophores) as bio-control agents against food spoiling and disease causing fungi and bacteria' - sponsored by Department of Biotechnology, Government of India, New Delhi.

Position held:

1. **Scientist E II:** From 31-08-2006 onwards, at the Biotechnology Division of North East Institute of Science and Technology (CSIR), Jorhat, Assam, India.
2. **Scientist E I:** From 31-08-2002 to 30-08-2006 at the Biotechnology Division of North East Institute of Science and Technology (CSIR) Jorhat, Assam, India.
3. **Scientist C:** From 31-08-1997 to 30-08-2002, at the Biotechnology Division of North East Institute of Science and Technology (CSIR), Jorhat, Assam, India.
4. **Post-doctoral Fellow:** From 22-12-1997 to 21-12-1998, under DBT Overseas Associateship and SJFR fellowship at the Soil Sciences Department of Swedish University of Agricultural Sciences, Uppsala, Sweden.
5. **Visiting Scientist:** From 15-09-1998 to 30-09-1998, at the Department of Microbiology and Biotechnology, University of Tuebingen, Tuebingen, Germany.
6. **Visiting Scientist:** From 01-10-1998 to 10-10-1998, at the Biologie Moleculaire Vegetable, Department de Botanique, University of Liege, Belgium.
7. **Scientist B:** From 31-08-1992 to 30-08-1997, at the Soil Microbiology Section of North East Institute of Science and Technology (CSIR), Jorhat, Assam.
8. **Lecturer:** From 01-07-1991 to 12-08-1992, at the PG Department of Botany of P.S.G.V.P Mandal's Science College (Poona University), Shahada, Maharashtra, India.

Awards/scholarship/honors won:

1. H. C. Dube Outstanding Young Scientist Award (2007) - by Indian Society of Mycology and Plant pathology (ISMPP), Udaipur, India
2. Selected as a participant in the NATO-Advanced Study Institute sponsored 12 day workshop on Novel biotechnologies for biocontrol agent enhancement and management held at Borgo Hotel Le Terre del Verde, Gualdo Tadino (Perugia) - Italy (2006)
3. Dr. Biraj Mohan Das Memorial Award (Life Sciences, 2005) - by B. M. Das Memorial Trust, Guwahati, India.
4. Researcher Award (2004) - by the Organizing Committee International Conference on O-CHA (Tea) Culture and Science (ICOS 2004), Japan.
5. SJFR visiting fellowship from Swedish Council of Forestry and Agriculture, Sweden (1997).
6. DBT Overseas Associateship (long-term) from Department of Biotechnology, Government of India, New Delhi (1996-1997)
7. CSIR direct Research Associateship from Council of Scientific and Industrial Research (CSIR), Government of India, New Delhi (1991).
8. Excel research fellowship from Excel Industries, Bombay, India (1990),
9. DOD direct research fellowship from Department of Ocean Development, Government of India, New Delhi (1986-1990)
10. Second Rank in the University for M.Sc. Botany (1985).

Current field of research interest:

1. Plant health and soil fertility management through rhizobacterial strains in soil polluted with oil and oily sludge,

2. Studies on the changes upto molecular level during induction of disease resistance in host plant through plant growth promoting rhizobacteria (PGPR) and their bioactive metabolites.
3. Isolation and identification of the bioactive metabolites from PGPR strains and their use in agriculture.
4. Use of PGPR strains for the bioconversion of organic compounds to novel drugs or their intermediates.

Membership in scientific societies:

1. **Fellow** - Society for Mycology and Plant Pathology, Udaipur
2. **Fellow** - Indian Phytopathological Society, New Delhi.
3. **Fellow** - Society for Bio-control Advancement, Bangalore.
4. **Fellow** - Indian Society for Plantation Crops, Kasaragod.
5. **Fellow** - International Society for Conservators and Explorers of Natural Resources, Varanasi.
6. **Life Member** - National Academy of Biological Sciences, Chennai.
7. **Life Member** - Indian Science Congress Association, Kolkata.
8. **Life Member** - Biotech Research Society of India, Trivandrum.
9. **Life Member** - Biotechnology Society of India, New Delhi.
10. **Life Member** - Association of Microbiologists of India, New Delhi.
11. **Life Member** - Society for Biological Chemists (India), Bangalore.
12. **Life Member** - Society for Plant Biochemistry and Biotechnology, New Delhi.
13. **Life Member** - Mycological Society of India, Goa.
14. **Life Member** - International Society of Tea Science, New Delhi.
15. **Life Member** - Assam Science Society, Guwahati.
16. **Life Member** - Academy of Plant Sciences, Muzaffarnagar.
17. **Life Member** - Society for Promotion and Innovation of Biopesticides, New Delhi..

Ph.D Research Guideship: Recognized Ph.D Research Guide of Gauhati University, Guwahati, Dibrugarh University, Dibrugarh and Assam Central University, Silchar, Assam, India for the subject of Biotechnology, Life Sciences and Environmental Sciences respectively under the Faculty of Science.

Students obtained Ph.D: Two (Topic: Crop improvement and development of induced systemic resistance against brown and charcoal rot disease of tea (*Camellia sinensis* L. (O) Kuntze) through plant growth promoting rhizobacteria (PGPR) – Gauhati University, Guwahati, Assam, 2006)
Interaction between plant growth promoting rhizobacteria and rhizobia affecting crop production and induction of systemic resistance against fusarial wilt in pigeon pea – Dibrugarh University, Dibrugarh, Assam, 2007)

Student working for Ph.D: Three. One student from Egypt is expected join under TWAS fellowship in 2009.

Postgraduate students supervised: Eight (M.Sc. Biotechnology students from different Indian Universities) are completed and two are working at present for the same.

Technical Reports: Six **Technology Developed:** Three

Technology released for commercial production to parties:

- Name of the technology: Bacterial formulation for crop enhancement and yield improvement
1. M/s Carnation Flora, IID Centre, Assam Industrial Corporation Ltd, Kundergaon, Titabar, Assam,
 2. M/s PRL Enterprise, Dhruva Nagar Station Road, Golaghat 785 621, Assam.
 3. M/s Lakily Tea Estate, Borhat 785 693, Sivasagar, Assam.
 4. M/s Karma Pharma, Biotech Resources, A-303, Neelkanth, Shivaji Road, Ambarnath (E), Thane 421 501, Maharashtra
 5. Shri. Praneswar Basumatary, Joysiddhi (Vill), Balijuri (PO), Sonitpur (DT), Assam.
 6. M/s Lukwah Tea Estate, RNT Tea Plantations Limited, Lakuwah 785 688, Sivasagar, Assam.

Address of Referees:

1. **Dr. P.G. Rao**, Director, North East Institute of Science and Technology Council of Scientific and Industrial Research, Jorhat 785 006, Assam, INDIA. E-mail: pgrao24@hotmail.com
2. **Dr. B.K. Gogoi**, Scientist F and Head, Biotechnology Division, North East Institute of Science and Technology Council of Scientific and Industrial Research, Jorhat 785 006, Assam, INDIA. E-mail: bkgogoi@yahoo.com

PATENTS/PUBLICATIONS OF DR. DILEEP KUMAR. B. S.

Patents

1. **Dileep Kumar, B.S.**, Mishra, A. K., Dutta, S. and Deka, M. A process for the development of a bioformulation for the control of charcoal stump rot and termite infestation in tea plantations. Indian Patent (0277/NF/2006).
2. **Dileep Kumar, B.S.**, Dutta, S. and Mishra, A. K. A process for the preparation of a bioformulation for the induction of systemic resistance against fusarial wilt in pigeon pea. Indian Patent (0251/NF/2006).
3. Dekaboruah, H.P., Saikia, N, **Dileep Kumar, B.S.**, and Baruah BP, A Process for Bioremediation in Coalmine rejects/overburden dumping sites. Indian Patent (0274NF/2005)
4. Dekaboruah, H. P and **Dileep Kumar, B. S.** A process for the preparation of antifungal, antitermite, insect repellent and plant growth promoting formulation from a beneficial rhizobacterial strain. Indian Patent (0221/NF/2004)
5. **Dileep Kumar, B. S.**; Mishra, A. K; Yadav, A and Unni, B.G. A novel process for the enhanced production of muga silk fibre through bioactive metabolites of a plant growth promoting rhizobacteria. Indian Patent (0220/NF/2004)
6. Chetia, A; Bora, U; **Dileep Kumar, B. S.** and Baruah, R..C. A process for the preparation of (+) – testosterone. Indian Patent (1483/ DEL/ 2003)
7. Bora, U; Sakia, C. J.; Mishra, A. K.; **Dileep Kumar, B. S.** and Baruah, R. C. A Process for optical resolution of racemic 1-arylethyl acetates using *Pseudomonas fluorescens* RRLJ 134 strain in presence of surfactant. Indian Patent (65/NF/2003).
8. Saikia, N; **Dileep Kumar, B. S.** and Dekaboruah H P. An improved process for preparation of organic fertilizer from aquatic weed. Indian Patent (0416NF/2001)
9. Bezbaruah, B. and **Dileep Kumar, B. S.** A process for the preparation of a biocide useful for the protection of seed and vegetative propagules. Indian Patent. (3074/DEL/1998).
10. **Dileep Kumar, B. S.** and Bezbaruah, B. An improved process for the preparation of a pseudobactin formulation useful for increasing the shelf life of stored fruits, vegetables and tubers. Indian patent. (2513/DEL/1998).

Publications

1. Duarah, I.; Sharma, A.R; Deka Boruah, H.P. and **Dileep Kumar, B.S.** 2009. Role of plant growth promoting rhizobacteria in agriculture – An overview. Proceedings of the workshop on ‘Recent advances in microbial Biotechnology and molecular biology (In Press).
2. **Dileep Kumar, B. S.**; Dutta, S., Sharma, A.R. and Mishra, A. K. 2009. Soil fertility improvement and crop enhancement through plant growth promoting rhizobacteria isolated. In : *Microbial Resources for Sustainable Development: Indo – Myanmar Hot Spot Regions*. Ed. N. Irabanta Singh. (In Press).
3. Saikia, N; **Dileep Kumar, B.S.**;Deka Boruah, H.P. and Yein, R. 2008. Transpiration: A key to determine the soil condition in crude oil effected area. Indian J. Environmental protection, 28 (10): 879-882.
4. Dutta, S; Mishra, A.K.and **Dileep Kumar, B.S.** 2008. Induction of systemic resistance against fusarial wilt in pigeon pea through interaction of plant growth promoting rhizobacteria and rhizobia. Soil Biol Biochem. 40 (1): 452-461.
5. Unni, B.G, Bora, U., Singh, H. R., **Dileep Kumar, B.S.**, Devi, B., Wann, S.B., Bora, A., Bhau, B.S., Neog, R. and Chakravorty, R. 2008. High yield and quality silk fibre production by muga silk worm *Antheraea assama* through application of plant growth promoting rhizobacteria. Curr Sci 94 (6): 768-774.
6. **Dileep Kumar, B. S.**; Mishra, A. K. and Dutta, S. 2007. Plant growth promoting rhizobacteria: its dual role in growth promotion and disease control of crop plants. In: *Biodiversity and Environmental Biotechnology*. Eds. P. Dwivedi, S.K. Dwivedi and M. C. Kalita. Scientific Publishers (India). Jodhpur pp. 371-398
7. Mishra, A.K, Dutta, S. and **Dileep Kumar, B. S.** 2005. Effect of fluorescent *Pseudomonas* strains on crop enhancement and suppression of root diseases of tea. In: *Asian Conference on Emerging Trends in Plant-Microbe Interactions*-Eds. S.S. Gnanamanickam, R. Balasubramanian and N. Anand. pp. 275-283
8. Deka Boruah, H. P.; **Dileep Kumar, B. S.** and Saikia, N. 2005. Effect of *Proteus vulgaris* B70 on palisade mesophyll development and root hair growth of French bean. In: *Plant Nutrition for Food Security, Human Health and Environmental Protection*. Eds. C.J. Li, F.S. Zhang, A. Dobermann, P. Hinsinger, H. Lambers, X.L. Li, P. Marschner, L. Maene, S. McGrath, O. Oenema, S.B. Peng, Z. Rengel, Q.R. Shen, R. Welch, N. von Wiren, X.L. Yan and Y.G. Zhu. Tsinghua University Press, Beijing, China. pp. 840-841.
9. Dutta, S.; Mishra, A.K. and **Dileep Kumar, B. S.** 2005. Efficacy of two rhizobacterial strains on growth promotion, nodulation and disease control of pigeon pea in presence of a rhizobial strain in soil infested with *Fusarium udum*. In: *Stress Biology* - Eds. U.Chakravorty and B.N. Chakravorty. Narosa Publishing House, New Delhi, India. pp.247-251.
10. Mishra, A.K.; Dutta, S. and **Dileep Kumar, B. S.** 2005. Biological control of brown rot disease and enhanced crop production in tea by a fluorescent *Pseudomonas* strain. Int. J. Tea Science 4: 27-31

11. Deka Boruah, H. P., **Dileep Kumar, B. S.**; Saikia, N. and Baruah, B. P. 2004. Cultivation of French bean by co-inoculation of rhizobacterial strain on soil affected by coal mine effluent pollutants. Proceedings of International Conference on Soil and Ground water Contamination- ENVIR\$OINDIA-2004. p. 91-100
12. **Dileep Kumar B.S.**; Dutta S. and Mishra A.K. 2004. Biocontrol of brown rot disease and improved crop production of tea by plant growth promoting rhizobacteria. Proceedings of "2004 International Conference on O-CHA (Tea) Culture and Science (ICOS 2004)" Shizuoka, Japan, November 4-6, 2004. p.98-101.
13. **Dileep Kumar, B. S** and Mishra, A.K. 2004 Plant growth promoting rhizobacteria (PGPR) - a wonder group of soil bacteria for augmenting crop production. In: *Biotechnology in Sustainable and Organic Farming – Scope and potential* – Eds. A.K Yadav, S.R. Chaudhury and N.C. Talukdar. Shree Publishers and Distributors, New Delhi, India. pp.198-207.
14. Bora, U; Saikia, C.J; Chetia, A; Mishra, A. K; **Kumar, B.S.D.** and Boruah, R.C. 2003. Resolution of racemic 1-arylethyl acetates by *Pseudomonas fluorescens* in the presence of a surfactant. Tetrahedron Letters 44: 9099-9102
15. Devi, I.; **Kumar, B.S.D.** and Bhuyan, P.J. 2003. A novel three-component one-pot synthesis of pyrano [2,3-d]- pyrimidines and pyrido [2,3-d] pyrimidines using microwave heating in the solid state. Tetrahedron Letters 44: 8307-8310
16. Dekaboruah H.P; B.K. Rabha; N.Saikia and **Dileep Kumar B. S.** 2003. Fluorescent *Pseudomonas* influences palisade mesophyll development and spatial root development in *Phaseolus vulgaris*. Plant Soil 256 (2): 291-301.
17. Dekaboruah H.P. and **Dileep Kumar B.S.** 2003. *Rhizoctonia* wilt suppression of brinjal (*Solanum melongena* L) and plant growth activity by *Bacillus* BS2. Ind. J Exp. Biol 41 (6): 627-631.
18. Deka Boruah, H. P. and **Dileep Kumar, B. S.** 2002. Biological activity of the secondary metabolites produced by the *Pseudomonas* strain RRLJ 008. Folia Microbiol. 47 (4): 359-363.
19. Bora, U; Longchar, M; Chetia, A; **Kumar, B.S.D**; Boruah, R.C and Sandhu, J.S. 2002. A facile 1,5 - rearrangement of β - formylenamides and cleavage of esters catalysed by *Pseudomonas fluorescens*. Tetrahedron Letters 43 (12): 2269-2271.
20. Deka Boruah, H. P. and **Dileep Kumar, B. S.** 2002. Disease suppression, plant productivity through a plant growth promoting fluorescent *Pseudomonas* strain RRLJ 008. Folia Microbiol. 47 (2): 137-143.
21. **Dileep Kumar, B. S.**; Berggren, I. and Martensson, A. 2001. Potential for improving pea production by co-inoculation with fluorescent *Pseudomonas* and *Rhizobium*. Plant Soil 229 (1) 25-34.
22. Dileep, C. and **Dileep kumar, B. S.** 2000. Influence of metham sodium on suppression of collar-rot disease of peanut, *in vitro* antibiosis, siderophore production and root colonization by a fluorescent *Pseudomonas* strain FPO4. Ind. J. Exp. Biol. 38 (12): 1245-1250.
23. Dileep, C.; **Dileep Kumar, B. S.** and Dube, H. C. 1999. Disease suppression and plant growth promotion of peanut by fluorescent pseudomonad strain, FPC 32 and FPO 4, in soil infested with collar-rot fungi *Aspergillus niger*. Indian Phytopathol. 52 (4): 415-416.
24. **Dileep Kumar, B. S.** 1999. Fusarial wilt suppression and crop improvement through two rhizobacterial strains in chickpea growing in soils infected with *Fusarium oxysporum* f.sp.*ciceris*. Biol.Fert.Soils. 29 (1): 87-91.
25. **Dileep Kumar, B. S.** and Bezbaruah, B. 1999. Plant protection through an *Actinomyces* strain isolated from tea (*Camellia sinensis* (L) O. Kuntze) plantations. J. Plantation Crops. 27 (1): 9-12.
26. **Dileep Kumar B. S.** 1998. Disease suppression and crop improvement through fluorescent pseudomonads isolated from cultivated soils. World J. Microbiol. Biotech 14 (5): 735-741.
27. Dileep, C.; **Dileep Kumar, B. S.** and Dube, H. C. 1998. Influence of amino acid, organic acid and sugar on growth, fluorescence and siderophore production of fluorescent pseudomonads. Ind. J. Exp. Biol. 36 (4): 429-431.
28. Dileep, C.; **Dileep Kumar, B. S.** and Dube, H. C. 1998. Promotion of plant growth and yield by two rhizoplane fluorescent pseudomonads. Ind. J. Exp. Biol. 36 (4): 399-402.
29. **Dileep Kumar, B. S.** and Bezbaruah, B. 1997. Plant growth promotion and fungal pest control through an antibiotic and siderophore producing fluorescent *Pseudomonas* strain from tea (*Camellia sinensis* (L) O. Kuntze) plantations. Ind.J.Exp. Biol. 35 (3): 289-292.
30. Bezbaruah, B.; **Dileep Kumar, B.S.** and Winkelmann, G. 1996. Influence of iron and antibiotic effect produced by rhizobacteria from tea (*Camellia sinensis* (L) O. Kuntze) plantations. Indian Phytopathol. 49 (4): 332-338.
31. **Dileep Kumar, B. S.** and Bezbaruah, B. 1996. Antibiosis and plant growth promotion by a *Pseudomonas* strain isolated from soil under tea cultivation. Ind. J. Microbiol. 36 (2): 45-48.
32. **Dileep Kumar, B. S.** 1996. Crop improvement and disease suppression by a *Bacillus* sp. SR 2 from pea nut rhizosphere. Ind. J. Exp. Biol. 34 (8): 794-798.
33. Bezbaruah, B.; **Dileep Kumar, B. S.** and Barthakur, M. 1996. Fungicidal and insect controlling properties of *Proteus* strain RRLJ 16, isolated from tea, *Camellia sinensis* (L) O. Kuntze, plantations. Ind. J. Exp. Biol. 34 (7): 706-709.
34. **Dileep Kumar, B. S.** and Dube, H. C. 1993. Siderophore production by a plant growth promoting fluorescent pseudomonad RBT 13. Ind. J. Microbiol. 33 (1): 61-65.

35. **Dileep Kumar, B. S.** and Dube, H. C. 1992. Seed bacterization with a fluorescent *Pseudomonas* for enhanced plant growth, yield and disease control. *Soil Biol. Biochem.* 24 (6): 539-542.
36. **Dileep Kumar, B. S.** and Dube, H. C. 1991. Plant growth promoting activity of a fluorescent *Pseudomonas* from tomato rhizosphere. *Ind. J. Exp. Biol.* 29 (4): 366-370.
37. **Dileep Kumar, B. S.**; Podile, A. R. and Dube, H. C. 1988. Antagonistic activity of *Bacillus subtilis* towards *Rhizopus nigricans*. *J. Biol. Control.* 2 (1): 42-45.
38. Podile, A. R.; **Dileep Kumar, B. S.** and Dube, H.C. 1988. Antibiosis of rhizobacteria against some plant pathogens. *Ind. J. Microbiol.* 28 (1&2): 108-111.

Papers Presented in the National/International Conferences/Seminars.

1. **Dileep Kumar, B.S.** Utilization of plant growth promoting rhizobacteria for crop enhancement and disease management. Invited paper presented in the second 'Asian Congress of Mycology and Plant Pathology' – held at Osmania University, Hyderabad, India from 19-22 December 2007
2. **Dileep Kumar, B. S.** Plant growth promoting rhizobacteria of crop plants and their application in crop improvement and disease control Invited paper presented in the seminar on "Recent Trends in Diagnosis and Management of Plant Diseases" - held at Assam Agricultural University, Jorhat, India from 1-2 November 2006
3. **Dileep Kumar, B.S.**, Dutta, S. and Mishra, A.K. Plant growth promoting rhizobacteria of crop plants and their application in crop improvement and disease control. Paper presented in the National Conference on "Agrobiodiversity" held at Chennai, India from 12-15 February 2006.
4. Mishra, A.K., Dutta, S. and **Dileep Kumar, B.S.** Crop improvement and development of induced systemic resistance against brown root rot and charcoal stump rot disease of tea (*Camellia sinensis* (L) O. Kuntze) through plant growth promoting rhizobacteria (PGPR). Paper presented in the National Symposium on "Emerging Plant Diseases, their Diagnosis and Management" held at North Bengal University, Siliguri, India from January 31 to February 2006.
5. Dutta, S. and **Dileep Kumar, B.S.** Plant growth promotion and suppression of fusarial wilt in pigeon pea through fluorescent *Pseudomonas* and *Bacillus* strains in presence of a rhizobial strain. Paper presented in the National Symposium on "Emerging Plant Diseases, their Diagnosis and Management" held at North Bengal University, Siliguri, India from January 31 to February 2006.
6. **Dileep Kumar, B. S.**, Saikia, N., Dekaboruah, H.P., Mishra, A.K and Dutta, S. Rhizobacteria associated with crop plants and their exploitation in improving crop productivity. Paper presented in the National Seminar on "Current Trends in Crop Disease Management for Improving Productivity" held at RRL, Jorhat, India from 19-20, January 2006.
7. Dutta, S., Mishra, A.K. and **Dileep Kumar, B.S.** Suppression of fusarium wilt in pigeonpea through plant growth promoting rhizobacteria and their bioactive metabolites. Paper presented in the "Second Global Conference of Indian Society of Mycology and Plant Pathology" held at Udaipur, India from 25-29, November 2005.
8. **Dileep Kumar B.S.**, Dutta S. and Mishra A.K. Biocontrol of brown rot disease and improved crop production of tea by plant growth promoting rhizobacteria. Paper presented in the "2004 International Conference on O-CHA (Tea) Culture and Science (ICOS 2004)" held at Shizuoka, Japan from 4-6, November 2004.
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