

FACULTY PROFILE



1. Name: Dr. H. S. Prakash

2. Designation: Professor & Chairman

**3. Qualification: M.Sc. in Botany (Mycology & Plant Pathology);
M.Phil in Seed Pathology
Ph.D. Applied Botany**

4. Area of Specialization/interest: Plant and microbial biotechnology, molecular diagnostics, molecular markers and metabolite diversity, metagenomics, bioprospecting of medicinal plants and endophytes, cell & tissue culture technology, mycology and plant pathology- seed virology, molecular plant pathology, RNA interference, biostatistics, electron microscopy

5. Awards/Recognitions:

- **Fellow of National Academy of Agricultural Sciences (FNAAS)** for the contribution in Crop Protection - 2011
- **Prof. V. Puri award** of Indian Botanical Society for the contribution in Fungal Diversity - 2011
- **Team leader – Terminal evaluation of UNDP-FAO-GOI Programme** on quarantine facilities
- Member of Committee for State Seed Certification facility strengthening
- Member of ISTA- World Group of Virologists
- Member of National Project Steering Committee for International Project on Coffee Leaf Rust funded by International Coffee Organization (ICO) and Common Funds for Commodity (CFC)
- **Chairman of Technical Session on “Systematic – Virus”, American Phytopathological Society** meeting held at Raleigh, USA, July 28-Aug 1, 2009
- Advisory committee member of Institute of Biotechnology & Allied Sciences Training & Research Institute, Sikar, Rajasthan
- Advisory committee member of UGC-SAP-DRS, Life Science Department, North Maharashtra University, Jalgaon
- Advisory committee member of UGC-CAS (Botany), Madras University
- Advisory committee member of UGC-SAP-DRS, Department of Microbiology & Biotechnology, Bangalore University

6. Number of projects:

i) Completed

Sl. No.	Title of the project	Funding Agency	Amount (Rs. in lakhs)	Year (From-To)
1	Creation of Seed Virology and Seed Bacteriology research & training facilities (in charge of Virology)	DANIDA	200	1992-1996
2	Advanced research i.e. training in Seed science & technology with special reference to Seed Pathology - DRS (III Phase)	UGC	35	1994-1999
3	Advanced research i.e. training in Seed science & technology with special reference to Seed Pathology - DRS (III Phase Continuation)	UGC	55	2000-2005
4	DST-FIST programme	DST	55	2003-2008
5	Induction of Panama Wilt Resistance in 'Nanjangud Rasabale' and elite banana cultivar using cell, tissue and irradiation technology	DBT	18	1999-2003
6	Diagnostics and Development of Seed Certification Protocols for Management of Seed Transmitted Viral Diseases of Grain Legumes	ICAR-NATP	30	2000-2004
7	Plant Virus interaction and Newer strategies to control Tobamoviruses in tomato and pepper	UGC	5	2001-2004
8	Host resistance screening against major seed borne diseases of crop plants grown in Karnataka	Advanta India Ltd	45	2002-2008
9	Isolation of endophytic and nonculturable microorganisma from medicinal tree species and endothelin-receptor based screening system	DBT	35	2003-2007
10	Epidemiology and management of bacterial blight of cotton	Govt. of Karnataka	05	2003-2006
11	Asian Centre for Training and Research in Seed Health Testing and Seed-Borne Disease Management	DANIDA Denmark	450	2001-2011

ii) On-going

Sl. No.	Title of the project	Funding Agency	Amount (Rs. in lakhs)	Date of Commencement	Expected date of completion
1	DBT-HRD programme on M. Sc. Biotechnology	DBT	65	1999	Plan period programme
2	UGC-SAP-DSA	UGC	72.5	2007	2012
3	Characterization and molecular diagnosis of Tobacco streak ilarvirus	UGC-MRP	5.30	2010	2013

7. Number of Ph.D candidates successfully completed : 22 (12 in Biotechnology; 10 in Applied Botany)

8. Number of Ph.D candidates currently working : 08

9. Number of M.Phil candidates successfully completed : 64

10. Number of M.Phil candidates currently working :01

11. Publications:

i) Books

1. Mortensen, C.N., **Prakash, H.S.** Udaya Shankar, A.C., Chandra Nayaka, S., and Maria Busch. .2008. Proceedings of “**Seed Health in Agriculture Development**” published by DSHC Denmark and ASsHC, UOM, Mysore.
2. Niranjana, S. R., **Prakash, H.S.** and Shekar Shetty .2008. “**Advances in Biotechnology for Plant Protection**” Published by University of Mysore, Mysore and Indian Society of Mycology and Plant Pathology.
3. Niranjana, S. R., **Prakash, H.S.** and Shekar Shetty. 2007. “**Molecular plant pathology and biotechnology for sustainable crop production**” Published by University of Mysore and Indian Phytopathological Society.
4. **Prakash, H. S.**, Niranjana, S. R. and Ramachandra Kini K.2004. “**Vistas in Applied Botany**” Published by Department of Studies in Applied Botany & Biotechnology, University of Mysore, Mysore.
5. Shekar Shetty, H. and **Prakash, H.S.** 2004. Proceedings of “**Emerging trends in Applied Botany, Seed Science and Technology**” Published by Department of Studies in Applied Botany & Biotechnology, University of Mysore, Mysore.
6. Shekar Shetty, H. and **Prakash, H.S.** 2004. Proceedings of “**Seed Science and Technology**”. Published by Department of Studies in Applied Botany & Biotechnology, University of Mysore, Mysore.
7. Shekar Shetty, H. and **Prakash, H.S.** 1996. Proceedings of National Seminar on “**Seed Pathology**”. Published by Department of Studies in Applied Botany & Biotechnology, University of Mysore, Mysore.
8. Shekar Shetty, H., Majumder, S.K. and **Prakash, H.S.** 1991. “**Biodeterioration, Culture Collections and aspects of Applied Mycology**” Published by Department of Studies in Applied Botany & Biotechnology, University of Mysore, Mysore.

Technical bulletins

1. A. C. Udayashankar, S. Chandra Nayaka, B. Archana, G. Anjana, S. R. Niranjana, **H.S. Prakash** and C.N. Mortensen. 2010. Leaf spot and blight of sunflower. Jointly published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
2. A. C. Udayashankar, S. Chandra Nayaka, B. Archana, S. R. Niranjana, **H.S. Prakash** and C.N. Mortensen. 2010. Brown spot of rice. Published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
3. A. C. Udayashankar, S. Chandra Nayaka, S. R. Niranjana, **H.S. Prakash**, C.N. Mortensen. Ole. S. Lund. 2010. Bean Common mosaic in french bean. Published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
4. S. Chandra Nayaka, A. C. Udayashankar, B. Archana, Niranjana, S.R., **H.S. Prakash** and C.N. Mortensen. 2010. Anthracnose disease of Chilli. Published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
5. S. Chandra Nayaka, A. C. Udayashankar, B. Archana, Niranjana, S.R., **H.S. Prakash** and C.N. Mortensen. 2010. Fruit rot of Brinjal. Published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.

6. S. Chandra Nayaka, A. C. Udayashankar, B. Archana, Niranjana, S.R., **H.S. Prakash** and C.N. Mortensen. 2010. Blast of rice. Published by Asian Seed Health Centre, Department of Studies in Biotechnology, University of Mysore, Mysore and Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
7. **Prakash, H.S.**, Shetty, H.S., Mahadevamurthy S. and Mathur, S.B. 1995. Ergot disease of pearl millet. DOS in Applied Botany, University of Mysore and DGISP, Denmark

Leaflets

1. Udayashankar, A.C., Chandra Nayaka, S., Archana, B., Niranjana, S.R., **Prakash, H.S.** and C.N. Mortensen, C.N. 2010. Stack burn of rice. Jointly published by Asian Seed Health Centre, DOS in Biotechnology, UOM, Mysore & Danish Seed Health Centre, Department of Plant Biology, University of Copenhagen, Denmark.
2. Udayashankar, A.C., Chandra Nayaka, S., Niranjana, S.R., **Prakash, H.S.** and C.N. Mortensen, C.N.. 2010. *Tobacco mosaic virus* and *Tomato mosaic virus*. Published by ASHC, DOS in Biotechnology, UOM, Mysore & DSHC, Denmark.
3. Udayashankar, A.C., Chandra Nayaka, S., Archana, B., Niranjana, S.R., **Prakash, H.S.** and C.N. Mortensen, C.N.. 2010. Bacterial canker of tomato. Published by ASHC, DOS in Biotechnology, UOM, Mysore & DSHC, Denmark.
4. Chandra Nayaka, S., Udayashankar, A.C., Nandini, B.P., Niranjana, S.R., **Prakash, H.S.** and Mortensen, C.N. 2010. Early blight of tomato. Published by ASHC, DOS in Biotechnology, UOM, Mysore & DSHC, Denmark.
5. Chandra Nayaka, S., Udayashankar, A.C., Nandini, B.P., Niranjana, S.R., **Prakash, H.S.** and Mortensen, C.N. 2010. Fumonisin-A novel class of Mycotoxins. Detection, quantification & control. Published by ASHC, DOS in Biotechnology, UOM, Mysore & DSHC, Denmark.
6. Hari Prasad, P., Chandra Nayaka, S., Udayashankar, A.C., Niranjana, S.R., **Prakash, H.S.** and Mortensen, C.N. 2010. Plant growth promoting rhizobacteria. Published by ASHC, DOS in Biotechnology, UOM, Mysore & DSHC, Denmark.

Others:

1. Prakash, H. S. and S. R. Niranjana. 'Indian laboratories and Seed Health Laboratory Specialists going for Global Standards' in India in Focus section of Asian Seed & Planting Material. APSA bulletin Vol.15 No.5, Oct/Nov. 2008. Pp.10-11.
2. Shetty, H.S. and **Prakash, H.S.** 1995. Courses in Seed Pathology offered by Department of Studies in Applied Botany, University of Mysore.

ii) Articles in Journals

International: 62; National: 66; Total: 128

International Publications:

1. Kesting, J.R., Olsen, L., Staerk, D., Tejesvi, M.V., Kini, K.R., Prakash, H.S., Jaroszewski, J.W. 2011. Production of unusual dispiro metabolites in *Pestalotiopsis virgatula* endophyte cultures: HPLC-SPE-NMR, Electronic Circular Dichroism, and time-dependent density-functional computation study. J. Natural Products (in press)
2. Ruma, K., Shailasree, S., Sampath, K.K., Niranjana, S.R. and **Prakash, H.S.** 2011. Diversity of fungal endophytes from two endemic tree species *Artocarpus hirsutus* Lam. And *Vateria indica* Linn. Of Western Ghats, India. World Journal of Agricultural Sciences 7(5): 577-582.
3. Geetha, N.P., Mahesh, M., Bettadaiah, B.K., Kini, R.K. and **Prakash, H.S.** 2011. HPLC method for determination of p-coumaric acid from the medicinal herb *Leptadina reticulata*. Int. J. Res. Phytochem. Pharmacol. 1(3): 192-195.
4. Kumar, S., Udaya Shankar, A.C., Nayaka, S.C., Lund, O.S. and **Prakash, H.S.** 2011. Detection of *Tobacco mosaic virus* and *Tomato mosaic virus* in pepper and tomato by multiplex RT-PCR. Letters in Applied Microbiology 53: 359-363. (IF: 1.6).

5. Vinayarani, G., Madhusudhan, K.N., Deepak, S.A., Niranjana, S.R. and **Prakash, H.S.** 2011. Detection of mixed infection of tobamoviruses in tomato and bell pepper by using RT-PCR and Duplex RT-PCR. *International Journal of Plant Pathology* 2011: 1-7.
6. Madhusudhan, K.N., Vinayarani, G., Deepak, S.A., Niranjana, S.R., **Prakash, H.S.**, Singh, G.P., Sinha, A.K. and Prasad, B.C. 2011. Antiviral activity of plants extracts and other inducers against tobamovirus infection in bell pepper and tomato plants. *International Journal of Plant Pathology* 2(1): 35-42.
7. Udayashankar, A.C., Chandra Nayaka, S., Niranjana, S.R., Ole S. Lund. and **Prakash, H.S.** 2011. First report of Bean common mosaic virus on *Lablab purpureus* in India. *Plant disease* (Accepted). (IF: 1.8)
8. Chandra Nayaka S., E.G Wulff., Udayashankar, A.C., Niranjana, S.R., Mortensen, N.M. and **Prakash, H.S.** 2011. Prospects of Molecular markers for *Fusarium* diversity. *Applied Microbiology and Biotechnology* (Accepted) (IF: 3.2)
9. Bhuvanendra Kumar, H., Udaya Shankar, A.C., Chandra Nayaka, S., Ramachandra K. Kini, Shekar Shetty, H. and **Prakash, H. S.** 2010. Biochemical characterization of *Fusarium oxysporum* f. sp. *cubense* isolates from India. *African Journal of Biotechnology* 9(4) 523-530 (IF: 0.6)
10. A. C. Udaya Shankar, S. Chandra Nayaka, H. Bhuvanendra Kumar, C. N. Mortensen, H. Shekar Shetty And **H. S. Prakash.** 2010. Establishing inoculum threshold values for *Bean common mosaic virus* strain blackeye cowpea mosaic seed infection in cowpea. *African Journal of Biotechnology* 9 (13): 8958-8969 (IF: 0.6)
11. Chandra Nayaka, S., A.C. Udaya Shankar., Niranjana S.R., Ednar, G.W., C.N. Mortensen and **Prakash, H.S.** 2010. Detection and quantification of fumonisins from *Fusarium verticillioides* in maize grown in southern India. *World journal of Microbiology and Biotechnology* 26; 71-78 (IF 1.0).
12. Kesting, J.R., Steark, D., Tejesvi, M.V., **Prakash, H.S.** and Jaroszewski, J.W. 2009. HPLC-SPE-NMR identification of a novel metabolite containing the benzo[c]oxepin skeleton from the endophytic fungus *Pestalotiopsis virgatula* culture". *Planta Medica* 75(10):1104-6. (IF 1.848).
13. Udaya Shankar, A.C., Chandra S. Nayaka, Kumar, B.H., Shetty, H.S., and **Prakash, H.S.** 2009. Detection and identification of the blackeye cowpea mosaic strain of *Bean common mosaic virus* in seeds of cowpea from southern India. *Phytoparasitica* 37: 283-293 (IF 0.558).
14. Krishnamurthy, P., Ranathunge, K., Franke, R., **Prakash, H.S.**, Schreiber, L., Mathew, M.K. 2009. The role of root apoplastic transport barriers in salt tolerance of rice (*Oryza sativa* L.). *Planta* 230(1):119-34 (IF 3.058).
15. Udaya Shankar, A.C., Chandra Nayaka, S., Reddy M.S., Niranjana S.R., **Prakash, H.S.** and C.N. Mortensen, 2009. Rhizobacteria mediated resistance against Bean common mosaic virus strain blackeye cowpea mosaic in cowpea (*Vigna unguiculata*). *Pest management Science* 65; 1059-1064. (IF 2.040).
16. Tejesvi, M.V., Tamhankar, S. A., Kini, K.R., Rao, V. S., **Prakash H.S.** 2009. Phylogenetic analysis of endophytic *Pestalotiopsis* species from ethnopharmacologically important medicinal trees. *Fungal diversity* 38:167-183. IF: 3.8
17. Tejesvi, M.V., K.R. Kini, **H.S. Prakash**, Ven Subbiah and H.S. Shetty. 2008. Antioxidant, antihypertensive, and antibacterial properties of endophytic *Pestalotiopsis* species from medicinal plants. *Can. J. Microbiol.* 54: 769-780.
18. Chandra Nayaka, S., A.C. Udaya Shankar., Niranjana S.R., Reddy M.S., **Prakash, H.S.** and C.N. Mortensen, 2008. Control of *Fusarium verticillioides* causing ear rot of maize by *Pseudomonas fluorescens*. *Pest management Science* 65; 769-775 (IF 2.040).
19. Nandeesh Kumar, P., Sudisha, J., Ramachandra Kini, K., **Prakash, H.S.**, Niranjana S.R. and Shetty, H.S. 2008. Chitosan induced resistance to downy mildew in sunflower caused by *Plasmopara halstedii*. *Physiological and Molecular Plant Pathology* 1: 1-7 (IF 1.2).
20. Nandeesh Kumar, P., Ramachandra Kini, K., **Prakash, H.S.** and Shetty, H.S. 2008. Induction of resistance against downy mildew on sunflower by rhizobacteria. *Journal of Plant Interactions* 3: 255-262
21. Chandra Nayaka, S., A.C.Udaya Shankar,Niranjana, S.R., and **Prakash, H.S.** 2008. Molecular detection and characterization of *Fusarium verticillioides* in maize. *Annals of Microbiology* 58, 359-367 (IF 0.5).
22. Chandra Nayaka, S., Niranjana, S.R., A.C.Udaya Shankar, S. Niranjana Raj, M.S.Reddy **Prakash, H.S.** and C.N.Mortensen 2008. Seed biopriming with novel strain of *Trichoderma harzianum* for the control of toxigenic *Fusarium verticillioides* and fumonisins in maize. *Archives of Phytopathology and Plant Protection* 1: 1 – 19

23. Tejesvi, M.V., Kini, K.R., **Prakash H.S.**, Subbiah, V. and Shetty, H.S. 2007. Genetic diversity and antifungal activity of species of *Pestalotiopsis* isolated as endophytes from medicinal plants. *Fungal diversity* 24: 37-54. (IF: 3.8)
24. Madhusudhan, K.N., B.M. Srikanta, M.D.Shylaja, **Prakash, H.S.** and Shetty, H.S. 2009. Changes in antioxidant enzymes, hydrogen peroxide, salicylic acid and oxidative stress in compatible and incompatible host-tobamovirus interaction. *Journal of Plant interactions* 4(3):157 – 166.
25. Madhusudhan, K.N., S.A.Deepak, **Prakash, H.S.**, G.K.Agarwal, N.S.Jwa, R. Rakwal. 2008. Acibenzolar-S-Methyl (ASM)-Induced Resistance against Tobamoviruses involves induction of RNA dependent RNA Polymerase (RdRp) and alternative oxidase (AOX) Genes *J. Crop Sci. Biotech.* 11 (2): 91 – 100.
26. Roopa, K.S., Geetha N.P., Sharathchandra R.G., Pushpalatha H.G. Sudhisha,J., Amruthesh K.N., **Prakash, H.S.** and Shetty, H.S. 2007. Osmoprimering enhances pearl millet growth and induce downy mildew disease resistance. *Archives of Phytopathology and Plant Protection* 1: 1-9.
27. Nandeesh Kumar, P., Sarosh, B.R., Ramachandra Kini, K., **Prakash, H.S.** and Shetty, H.S. 2007. Elicitation of resistance and defense related proteins by b-amino butyric acid in sunflower against downy mildew pathogen *Plasmopara halstedii*. *Archives of Phytopathology and Plant Protection* 1: 1-13.
28. Deepthi, N., Madhusudhan, K.N., Uday Shankar, A.C., Bhuvanendra Kumar, H., **Prakash, H.S.** and Shetty, H.S. 2007. Effect of plant extracts and acetone precipitated protein from six medicinal plants against tobamovirus infection. *International Journal of Virology* 3: 80-87.
29. Hari P. Prasad, Uday Shankar, A.C. Bhuvanendra H. Kumar, Shetty, H.S., **Prakash, H.S.** 2007. Management of Bean common mosaic virus strain blackeye cowpea mosaic (BCMV-BICM) in cowpea using plant extracts. *Archives of Phytopathology and Plant Protection* 40: 139-147.
30. Bhuvanendra H.K., Uday Shankar, A.C., Kini, R.K., Shetty, H.S. and **Prakash, H.S.** 2006. Genetic variation in *Fusarium oxysporum* f.sp. *cubense* isolates based on random amplified polymorphic DNA and intergenic spacer. *Archives of Phytopathology and Plant Protection* : 1-10
31. Tejesvi, M.V., Mahesh, B., Nalini, M.S., **Prakash, H.S.**, Kini, K.R., Ven Subbaiah and Shetty, H.S. 2006. Fungal endophyte assemblages from ethno pharmaceutically important medicinal trees. *Canadian J. of Microbiol.* 52: 427-435 (IF 1.15).
32. Sudisha, J., Niranjana, S.R., Umesh, S., **Prakash, H.S.** Shetty, H.S. 2006. Transmission of seed-borne infection of muskmelon by *Didymella bryoniae* and effect of seed treatments on disease incidence and fruit yield. *Biological control* 37: 196-205 (IF 1.132).
33. Tejesvi, M.V., Mahesh, B., Nalini, M.S., **Prakash, H.S.**, Ven Subbaiah, Kini, K.R., and Shetty, H.S. 2006. New hopes from endophytic fungal secondary metabolites. *J. Mex. Chem. Soc.* 37-44
34. Babitha, M.P., Madhu, D., **Prakash, H.S.** and Shetty, H.S. 2006. Production of polyclonal antisera to manganese superoxide dismutase expressed in downy mildew resistant pearl millet and its application for immunodiagnosis. *Electronic Journal of Biotechnology* 2: 133-143.
35. Babitha, M.P., **Prakash, H.S.** and Shetty, H.S. Induction of lipoxygenase in downy mildew resistant seedlings of pearl millet in response to inoculation with *Sclerospora graminicola*. *International Journal of Agriculture & Biology* 8: 560-564.
36. Anjana, G., Kini, K.R., Shetty, H.S. and **Prakash, H.S.** 2006. Changes in peroxidase activity in sunflower during infection by necrotrophic pathogen *Alternaria helianthi*. *Archives of Phytopathology and Plant Protection* : 1-11
37. Bhuvanendra Kumar, H., Uday Shankar, A.C., **Prakash, H.S.** and Shetty, H.S. 2005. Effect of Sanosil and *Pseudomonas fluorescens* on Bean Common Mosaic Potyvirus Incidence in French bean. *International Journal of Botany* 4: 1-5
38. Madhusudhan, K.N., Nalini, M.S., **Prakash, H.S.** and Shetty, H.S. 2005. Effect of inducers against tobamovirus infection in tomato and bell pepper. 1: 59-61, 2005 *International Journal of Botany*.
39. Mahesh, B., Nalini, M.S., Tejesvi, M.V., **Prakash, H.S.**, Kini, K.R., Ven Subbiah and Shetty, H.S. 2005. Endophytic fungi from *Azadirachta indica* (A. Juss.) inner bark. *Current Science* 88: 218-219 (IF 0.728)
40. Tejesvi, M.V., Mahesh, B., Nalini, M.S., **Prakash, H.S.**, Kini, K.R., Ven Subbaiah and Shetty, H.S. 2005. Endophytic fungal assemblages from inner bark and twig of *Terminalia arjuna* W. & A. (Combretaceae). *World Journal of Microbiology & Biotechnology* 21: 1535-1540 (IF 0.634)
41. Nalini, M.S., Mahesh, B., Tejesvi, M.V., **Prakash, H.S.**, Ven Subbaiah, Kini, R.K. and Shetty, H.S. 2005. Fungal endophytes from the three-leaved caper, *Crataeva magna* (Lour.)DC. (Capparidaceae). *Mycopathologia* 159: 245-249 (IF 0.568)

42. Babitha, M.P., **Prakash, H.S.** and Shetty, H.S. 2004. Purification and properties of lipoxygenase induced in downy mildew resistant pearl millet seedlings due to infection with *Sclerospora graminicola*. Plant Science 166: 31-39 (IF 1.652)
43. Sreenivasulu, N., Miranda, M., **Prakash, H.S.**, Wobus, U., and Weschke, W. 2004. Transcriptome changes in foxtail millet genotypes at high salinity: Identification and characterization of a PHGPX gene specifically upregulated by NaCl in a salt-tolerant line. J. Plant Physiol. 161: 467-477 (IF 2.239).
44. Babitha, M.P., Bhat, S.G., **Prakash, H.S.** and Shetty, H.S. 2002. Differential induction of superoxide dismutase in downy mildew-resistant and -susceptible genotypes of pearl millet. Plant Pathology 51: 480-486 (IF 1.264).
45. Babitha, M.P., **Prakash, H.S.** and Shetty, H.S. 2002. Purification and partial characterization of manganese superoxide dismutase from downy mildew resistant pearl millet seedlings inoculated with *Sclerospora graminicola*. Plant Science 163: 917-924 (IF 1.652).
46. Puttaraju, H.R., **Prakash, H.S.** and Shekar Shetty, H. 2002. Contribution of seedborne blackeye cowpea mosaic potyvirus to disease dynamics and loss of yield. Trop. Sci. 42: 147-152
47. Haraprasad, N., Niranjana, S.R., Prakash, H.S., Shetty, H.S. and Seema Wahab. 2001. *Beauveria bassiana* – a potential mycoherbicide for the efficient control of coffee berry borer *Hypothenemus hampei* (Ferrari) in India. Biocontrol Sci. & Technol. 11: 251-260 (IF 0.857).
48. Madhu, D., Shylaja Dharmesh, M., Arun Chandrashekar, Shekar Shetty, H. and **Prakash, H.S.**. 2001. Role of H⁺-ATPases in pearl millet downy mildew disease resistance. Plant Science 161: 799-806 (IF 1.652)
49. Chitra, T.R., **Prakash, H.S.**, Albrechtsen, S.E., Shetty, H.S. and S.B. Mathur. 1999. Infection of tomato and bell pepper by ToMV and TMV at different growth stages and establishment of virus in seeds. Journal Plant Pathology 81: 123-126 (I.F. 0.647).
50. Chitra, T.R., **Prakash, H.S.**, Albrechtsen, S.E., Shetty, H.S. and S.B. Mathur. 1999. Seed transmission of mosaic viruses in tomato and bell pepper. Trop. Sci. 39: 80-84.
51. Raju, N.S., Niranjana, S.R., Janardhana, G.R., **Prakash, H.S.**, Shekar Shetty., H. and Mathur, S.B. 1999. Improvement of seed quality and field emergence of Fusarium moniliforme infected sorghum seeds using biological agents. Journal of the Science of food and Agriculture. 79: 206-212 (IF 0.86).
52. Sreenivasulu, N., Ramanjulu, S., Ramchandra Kini, K., **Prakash, H.S.**, Shekar Shetty, H., Savithri, H.S., and Sudhakar, C. 1999. Total peroxidase activity and peroxidase isoforms as modified by salt stress in two cultivars of fox-tail millet with differential salt tolerance. Plant Science 141: 1-9. (IF 1.14).
53. Niranjana, S.R., Pandit, A., **Prakash, H.S.** and Shetty, H.S. 1999. Effect of triacontanol on the seed quality of maize, paddy and sunflower. Seed Sci. & Technol. 27: 1007-1013. (IF 0.562).
54. Zarbakhsh, A.J., **Prakash, H.S.** and Shetty, H.S. 1999. Effect of storage on chemical composition, germination and virour of dormant and non-dormant seeds of sunflower genotypes. Seed Sci. & Technol. 27: 771-778. (IF 0.562).
55. Sreenivasulu, N., Ramanjulu, S., Kini, K.R., **Prakash, H.S.**, Shetty, H.S., Savithri, H.S. and Sudhakar, C. 1999. Total peroxidase activity and peroxidase isoforms as modified by salt stress in two cultivars of fox-tail millet with differential salt tolerance. Plant Science 141: 1-9 (IF 1.652).
56. Geetha, S., Shetty, S.A., Shetty, H.S. and **Prakash, H.S.** 1998. Sclerospora graminicola and arachidonic acid – induced autofluorescence in downy mildew resistant and susceptible genotypes of pearl millet. Ann. Appl. Biol. 133: 219-226. (IF 1.752)
57. Geetha, S., Shetty, S.A., Shetty, H.S. and **Prakash, H.S.** 1996. Arachidonic acid-induced hypersensitive cell death as an assay of downy mildew resistance in pearl millet. Ann. Appl. Biol. 129: 091-096
58. Shekaramurthy, S., Patkar, K.L., Shetty, S.A., **Prakash, H.S.** and Shetty, H.S. 1994. Effect of thiram treatment on sorghum and seed quality in relation to accelerated ageing. Seed Sci. & Technol. 22: 607-617. (IF 0.562).
59. Ameeta Banerjee, Mathews, R.P., **Prakash, H.S.** and Shetty, H.S. 1993. Mycobiota and toxigenic *Aspergillus flavus* associated with developing cardamom and pepper. Mycol. Res. 97: 1403-1406. (IF 1.861)
60. Geetha Upadhyaya, Shivanna, M.B., **Prakash, H.S.** and Shetty, H.S. 1992. A novel approach to the establishment of dual cultures of pearl millet and Sclerospora graminicola. Plant Cell, Tissue and Organ Culture 31: 203-206. (IF 1.068)

61. Nagarathna, K.C., Shetty, S.A., Prakash, H.S., Bhat, S.G. and Shetty, H.S. 1992. Lipoxxygenase activity in fresh, stored and germinating pearl millet seeds resistant and susceptible to downy mildew disease. *Can. J. Bot.* 70: 2028-2031.
62. Basavarajappa, H.S., Shetty, H.S. and **Prakash, H.S.** Membrane deterioration and other biochemical changes associated with accelerated ageing of maize seeds. *Seed Sci. & Technol.* 19: 279-286. (IF 0.562).
63. Shetty, S.A., **Prakash, H.S.** and Shetty, H.S. 1989. Efficacy of certain plant extracts against seed-borne infection of *Trichoconiella padwickii* in paddy (*Oryza sativa*). *Can. J. Bot.* 67: 1956-1958. (IF 1.058).
64. Satish Kumar, L., **Prakash, H.S.** and Shetty, H.S. 1991. Influence of seed mycoflora and harvesting conditions on milling, popping and malting. *J. Sci. Food Agric.* 617-625
65. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. and Safeeulla, K.M. 1985. Downy mildew inoculum in maize seeds: Techniques to detect seed-borne inoculum of *Peronosclerospora sorghi* in maize. *Seed Sci. & Technol.* 13: 593-600. (IF 0.562).
66. Prakash, H.S., Shetty, H.S. and Safeeulla, K.M. 1983. Germination and nuclear behavior of sexual and asexual propagules of *Claviceps fusiformis*. *Trans. Br. Mycol. Soc.* 81: 65-69.

National

1. Nalini, M.S., Akshatha, J.V., Sampath Kumara, K.K., and Prakash, H.S. 2011. *Rauvolfia micrantha* Hook. F. (Apocynaceae): An endemic and endangered medicinal species with new distributional record for Karnataka, India. *J. Econ. Taxon. Bot.* Vol. 35(3): 630-632.
2. A.C. Udaya Shankar., Chandra Nayaka, S., Niranjana, S.R., **Prakash H.S.** and C.N. Mortensen. 2010. Comparative Efficacy of Strobilurin Fungicides against *Alternaria* Blight Disease of Sunflower caused by *Alternaria helianthi*. *Journal of Mycology and Plant pathology* (Accepted).
3. Prakash, H.S. 2010. Molecular detection of *Xanthomonas citri* subsp. *malvacearum* in cotton seeds. *Research Journal of Biotechnology* 5(1): 20-26
4. Madhusudan, K.N. and **Prakash, H.S.** 2010. Pectin methyl esterase estimation in plant-tobamovirus interaction and comparative modeling active site prediction and docking between the proteins involved in the movement of Tobamoviruses. *Journal of computational intelligence in bioinformatics* 3(2): 163-174 (Accepted).
5. Sampath Kumara, K.K., Ven subbaiah and **Prakash, H.S.** 2010. *Phyllanthus scabrifolius* hook. F. (Euphorbiaceae): A rare species in gudalur, new distributional record for Tamil Nadu. *J. Econ. Taxon. Bot* 34(2): 388-390.
6. Chandra Nayaka, S., A.C. Udaya Shankar, S. Niranjana Raj, Niranjana, S.R. and **Prakash, H.S.** 2008. Tebuconazole and Thiabendazole for the management of fumonisin and *Fusarium verticillioides* in maize. *Journal of Mycology and Plant Pathology* 38(3): 430-436.
7. Nalini, M.S., **Prakash, H.S.**, Shetty, H.S. and Prabhakar, M. 2006. Reaction of French bean accessions and varieties to Bean common mosaic potyvirus and seed transmission of the virus. *Legume Res.* 29: 126-129.
8. Nalini, M.S., Shylaja, M.D., **Prakash, H.S.**, and Shetty, H.S. 2006. Production of polyclonal antibody to bean common mosaic virus and its application to health testing. *Indian Journal of Microbiology* 46: 97-108.
9. Murthy, S.M., **Prakash, H.S.** and Shetty, H.S. 2006. Survival of *Claviceps fusiformis* sclerotia in antagonist-amended field soil. *Asian Journal of Microbial Biotech Env. Sc.* 8: 389-392.
10. Murthy, S.M., **Prakash, H.S.** and Shetty, H.S. 2006. Effect of spore suspension and culture filtrates of antagonists on the development of ergot on pearl millet. *Asian Journal of Microbial Biotech Env. Sc.* 8: 393-398.
11. Bharath, B.G., Lokesh, S., Yashovarma, B., **Prakash, H.S.** and Shetty, H.S. 2006. Seed-borne nature of *Myrothecium roridum* in watermelon seeds. *Research Journal of Botany*
12. Bharath, B.G., Lokesh, S., **Prakash, H.S.** and Shetty, H.S. 2006. Evaluation of different plant protectants against seed mycoflora of watermelon [*Citrullus lanatus* (Thunb.) Matsum and Nakai]. *Research Journal of Botany* 1: 1-5
13. Bharath, B.G., Lokesh, S., Rai, V.R., **Prakash, H.S.**, Yashovarma, B. and Shetty, H.S. 2005. Role of foliar spray in the infection biology and management of fungal diseases of watermelon [*Citrullus lanatus* (Thunb.) Matsum and Nakai]. *World Journal of Agricultural Sciences* 1: 105-108

14. Puttaraju, H.R., **Prakash, H.S.** and Shetty, H.S. 2004. Seed infection by Blackeye cowpea mosaic potyvirus and yield loss in different cowpea varieties. *J. Mycol. Pl. Pathol.* 34: 41-46.
15. Nalini, M.S., **Prakash, H.S.**, Shylaja, M.D., and Shetty, H.S. 2004. Indexing french bean (*Phaseolus vulgaris* L.) for bean common mosaic potyvirus infection. *Seed Research* 32: 200-206.
16. Puttaraju, H.R., Shylaja, M.D., **Prakash, H.S.** and Shetty, H.S. 2004. Blackeye cowpea mosaic potyvirus – Polyclonal antibody production and its application to seed health testing. *J. Mycol. Pl. Pathol.* 34: 810-815
17. Puttaraju, H.R., **Prakash, H. S.** and Shetty, H.S. 2003. Detection of blackeye cowpea mosaic Potyvirus (BLCMV) in leaves and seeds of cowpea. *Indian Journal of Microbiology* 43: 45-48.
18. Chitra, T.R., **Prakash, H.S.**, Albrechtsen, S.E. and Shetty, H.S. and Mathur, S.B. 2002. Indexing of leaf and seed samples of tomato and bell pepper for tobamoviruses. *Indian Phytopath.* 55: 84-86.
19. Kalpana Sachdev, **Prakash, H.S.**, Prasad, T.G. and Sathyanarayana, B.N. 2002. Somatic embryogenesis and plantlet regeneration from node and leaf callus cultures of *Gloriosa superba* L. *J. Plant Biol.* 29: 179-189
20. Puttaraju, H.R., **Prakash, H.S.** and Shetty, H.S. 2001. Detection of Peanut mottle potyvirus in leaf and seed of peanut and its effect on yield. *Indian Phytopath.* 54: 479-480
21. Puttaraju, H.R., **Prakash, H. S.** and Shetty, H.S. 2000. Field incidence, seed transmission and susceptibility of cowpea varieties with reference to blackeye cowpea mosaic Potyvirus. *Seed Research* 28: 196-202.
22. Puttaraju, H.R., **Prakash, H.S.**, Albrechtsen, S.E., Shetty, H.S. and Mathur, S.B. 1999. Detection of bean common mosaic potyvirus in French bean seed samples from Karnataka. *Indian J. Virol.* 15: 27-29.
23. Sreenivasulu, N., Ramanjulu, S., Ramachandra-Kini, K., **Prakash, H.S.**, Shekar Shetty, H., Savithri, H.S. and Sudhakar, C. 1999. *Plant Science* 141: 1-9.
24. Pushpalatha, K.C., **Prakash, H.S.**, Albrechtsen, S.E., Shetty, H.S. and Mathur, S.B. 1999. Transmission of urdbean leaf crinkle virus through urdbean seeds. *Seed Res.* 27: 112-115.
25. Purushotham, S.P., Patkar, K.L., **Prakash, H.S.** and Shetty, H.S. 1996. Storage fungi and their influence on rice seed quality. *Indian Phytopathology* 49: 152-156
26. Jagadeesh Kumar, C.K., Niranjana, S.R., **Prakash, H.S.** and Shekar Shetty, H. 1995. Use of antagonists to control seed-borne pathogens of maize (*Zea mays* L.). *Indian J. Microbial Ecol.* 5: 125-136
27. Geetha, S., **Prakash, H.S.** and Shetty, H.S. 1995. Recalcitrancy in cereal anther culture: current status. *J. Indian Bot. Soc.* 74A: 343-350.
28. Saifulla, M., Krishnappa, M., **Prakash, H.S.** and Shetty, H.S. 1995. Chemical control of rice grain discoloration. *Sci. & Cult.* 61:51-52.
29. Saifulla, M., Krishnappa, M., **Prakash, H.S.** and Shetty, H.S. 1995. Agronomic practices on the incidence of rice grain discoloration. *Agric. Sci. Digest* 15: 125-128.
30. Prabhu, L.V., **Prakash, H.S.** and Shetty, H.S. 1994. Variation in floral characters of genotypes of pearl millet (*Pennisetum glaucum*) resistant or susceptible to ergot caused by *Claviceps fusiformis*. *Indian J. agric. Sci.* 64: 67-69.
31. Lakshmidivi, N., **Prakash, H.S.** and Shetty, H.S. Effect of seed-borne *Mactophomina phaseolina* (Tassi)Goid. On physiochemical properties of sunflower oil. *Int. J. Tropical Plant Diseases* 10: 79-84.
32. Arun Kumar, T.R., **Prakash, H.S.**, Majumder, S.K. and Shetty, H.S. 1992 – 93. Microflora and other quality parameters of stored Basmati rice in relation to prophylactic treatment with malathion. *Journal of Mysore University: Sec. B Vol. 33: 1 – 7.*
33. Lakshmidivi, N., **Prakash, H.S.** and Shetty, H.S. 1992-93. Effect of charcoal rot on seed yield and oil content of sunflower. *J. of Mysore University Section B* 33: 115-121.
34. Parvathamma, S., **Prakash, H.S.** and Shekara Shetty, H.1991. Evaluation of seed vigour in sorghum and sunflower. *Ad. Plant Sci.* 4: 35-42
35. Pandurange Gowda, K.T., Shetty, H.S., Jayarame Gowda, B., **Prakash, H.S.** and Sangam Lal. 1992. Comparison of two methods for assessment of yield loss due to turicum leaf blight of maize. *Indian Phytopath.* 45: 316-320.

36. Lakshmidivi, N., **Prakash, H.S.** and Shetty, H.S. 1992. Effect of three seed-borne fungi on physico-chemical properties of sunflower oil. *Ad. Plant Sci.* 5: 67-73
37. Nagarathna, K.C., Prakash, H.S. and Shetty, H.S. 1991. Genotypic effects on the calls formation from different explants of pearl millet B lines. *Ad. Plant Sci* 4: 82-86
38. Lakshmidivi, N., **Prakash, H.S.**, and Shetty, H.S. 1991. Seed-borne nature and transmission of *Sclerotium rolfsii* Sacc. in sunflower. *Pl. Dis. Res.* 6: 74-76.
39. Satish Kumar, L., Prakash, H.S. and Shetty, H.S. 1991-92. Influence of pH and temperature on the phytotoxicity of the culture filtrate of *Alternaria helianthi*. *J. of Mysore University Section B.* 32: 385-388.
40. Mahadevamurthy, S., **Prakash, H.S.** and Shetty, H.S. 1991-92. Prevention of sclerotial germination of *Claviceps fusiformis* using culture filtrates of antagonists. *J. of Mysore University Section-B.* 32: 354-358
41. Lakshmidivi, N., **Prakash, H.S.**, Shetty, H.S. 1991-92. Effect of *Sclerotium* wilt on yield components, oil content and seed quality of sunflower. *J. of Mysore University: Section-B.* 32: 359-365
42. Shivanna, M.B., Geetha Upadhyaya, **Prakash, H.S.** and Shetty, H.S. 1991-92. Storage of clusterbean seeds and its influence on the mycoflora and seed germination. *J. of Mysore University Section B* 32: 389-396
43. Satish Kumar, L., **Prakash, H.S.**, and Shetty, H.S. 1991. Effect of various factors on the phytotoxicity of culture filtrate of *Alternaria helianthi*. *Pl. Dis. Res.* 6: 67-73.
44. Hema, L.R., Shivanna, M.B., Kumar, V., Krishnappa, M., **Prakash, H.S.** and Shetty, H.S. 1991. Control of seed-borne fungi in okra (*Hibiscus esculentus*) by fungicidal seed treatment. *Indian J. Agric. Sci.* 61: 778-782.
45. Janardhana Reddy, M., Ameeta Banerjee, **Prakash, H.S.** and Shetty, H.S. 1990. Differential response of sunflower and maize cultivars to the culture filtrate of *Alternaria alternate* (Fr.) Keissler. *Ad. Plant Sci.* 3: 207-212.
46. Mahadevamurthy, S., **Prakash, H.S.** and Shetty, H.S. 1990. Inhibitory effect of some antagonists on the *in vitro* growth of *Claviceps fusiformis*. *Int. J. Tropical Plant Diseases* 8: 267-269
47. Hema, L.R., Shivanna, M.B., Krishnappa, M., **Prakash, H.S.** and Shetty, H.S. 1990. Seed-borne nature of *Botryodiplodia theobromae* in okra and its importance. *Int. J. Tropical Plant Diseases* 8: 251-256.
48. Mahadevamurthy, S., **Prakash, H.S.** and Shetty, H.S. 1988. Effect of some antagonists on the sclerotial germination of *Claviceps fusiformis*. *J. Biol. Control* 2: 120-122
49. Subrahmanya, K.N., **Prakash, H.S.**, Shetty, H.S. and Karanth, N.G.K. 1988. Effect of thiram and bavistin on sorghum seed stored under different conditions. *Pesticides August Issue:* 25-26.
50. Anisa Ath-Har, M., **Prakash, H.S.** and Shetty, H.S. 1988. Mycoflora of Indian spices with special reference to aflatoxin producing isolates of *Aspergillus flavus*. *Indian J. Microbiol.* 28: 125-127.
51. Gopinath, A., **Prakash, H.S.** and Shetty, H.S. 1988. Effect of sorghum and pearl millet pollen on the conidial germination of *Fusarium moniliforme* and *F. semitectum*. *Geobios* 15: 14-18.
52. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. 1988. Effect of different phenolic compounds on sporulation and conidial germination of *Peronosclerospora sorghi in vitro*. *Geobios* 15: 46-48
53. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. 1988. Effect of different metalaxyl formulations on the incidence of seed-borne fungi of pearl millet and sorghum. *Geobios* 15: 57-61
54. Gopinath, A., Shetty, H.S. and **Prakash, H.S.** 1987. Colonization of *Fusarium* species in sorghum seeds and their significance. *Indian Phytopath.* 40: 181-185.
55. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. 1987. Colonisation of maize seed by *Peronosclerospora sorghi* and its significance. *Geobios* 15: 46-48
56. Subrahmanya, K.N., Karanth, N.G.K., Shetty, H.S., and **Prakash, H.S.** 1987. Persistence of thiram in treated sorghum seeds stored under varied conditions. *Geobios* 14: 233-236.
57. **Prakash, H.S.**, Muralidhara Rao, B., Gopinath, A. and Shetty, H.S. 1987. Stimulation of sclerotial germination of *Claviceps fusiformis*. *Geobios* 14: 244-246
58. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. 1986. *Euphorbia pulcherimma*, Willd – A new host of pearl millet rust. *Current Science* 55: 576-577

59. Muralidhara Rao, B., Pankaja, S., **Prakash, H.S.** and Shetty, H.S. 1985. Seed-borne *Aspergillus* species of frenchbean and their significance. *Seeds & Farms X*: 49-50
60. Gopinath, A., **Prakash, H.S.** and Shetty, H.S. 1985. Grain mold of sorghum: Role of associated fungi on the health and viability of seeds. *Int. J. Tropical Plant Diseases* 3: 177-182.
61. Muralidhara Rao, B., Raveesha, K.A., **Prakash, H.S.** and Shetty, H.S. 1984. Effect of chemical treatment on germination and mycoflora of pearl millet seeds. *Seed Research* 12: 102-103
62. Muralidhara Rao, B., **Prakash, H.S.** and Shetty, H.S. 1984. Relationship of cultivars with sporulation and morphology of asexual propagules of *Peronosclerospora sorghi* on maize. *Int. J. Tropical Plant Diseases* 2: 175-180
63. Venkatasubbaiah, P., **Prakash, H.S.**, Shetty, H.S. and Safeeulla, K.M. 1984. Histopathological and histochemical changes due to *Rhizoctonia solani* infection in coffee seedlings. *J. Coffee Res.* 14: 26-33.
64. Subramanya, S., Safeeulla, K.M., Shetty, H.S. and **Prakash, H.S.** 1981. Growth stages in pearl millet (*Pennisetum typhoides* (Stapf. & Hubb.)) and Susceptibility to infection of downy mildew pathogen (*Sclerospora graminicola* (Sacc.)Schroet.). *Proc. Indian natn. Sci. Acad. B* 47: 574-580.
65. **Prakash, H.S.** and Shetty, H.S. 1981. Influence of storage temperature on sclerotial germination of *Claviceps fusiformis*. *Current Science* 50: 870-871.
66. **Prakash, H.S.**, Shetty, H.S., Subramanya, S. and Safeeulla, K.M. 1981. Standardization of sclerotial germination technique and infectivity of the ascospores of *Claviceps fusiformis* Lov. *Indian J. agric. Sci.* 51: 900-904.
67. **Prakash, H.S.**, Shetty, H.S. and Safeeulla, K.M. 1980. Histology of carpel infection by *Claviceps fusiformis* in pearl millet. *Proc. Indian natn. Sci. Acad. B* 46: 708-712.

iv) Book chapters:

1. Prakash, H.S. 2010. Status and future prospects of seed health testing. Souvenir article of National symposium on Molecular approaches for management of fungal diseases of crop plants. Indian Institute of Horticultural Research, Bangalore.
2. Tejesvi, M.V. and **Prakash, H.S.** 2009. Phylogenetic tools for the Identification of Fungi. In *Frontiers in Fungal Ecology and Metabolites* (Ed. Sridhar K.R.), IK International Publication House Pvt. Ltd., New Delhi, pp: 285-299.
3. **Prakash, H.S.** and Udaya Shankar, A.C. 2008. Seed health diagnostics – current status and future perspectives. National Conference on Biotechnology for Industrial & Rural Development (NCBIRD – 2008). P.7.
4. **Prakash, H.S.** 2000. Incidence of seed-borne viruses in some pulse and vegetable crops grown in Karnataka. In: *Proceedings of 1999-National Seminar on Seed Science and Technology*. DOS in Applied Botany, UOM.
5. **Prakash, H.S.** 2000. Serodiagnosis for plant viruses. In: *Microbes for better living*, MICON -94 35th AMI conference 9-12.
6. **Prakash, H.S.** and Shekar Shetty, H. 1991. Biodeterioration of materials. Published in *Biodeterioration, Culture Collections and aspects of Applied Mycology* published by DOS in Applied Botany, UOM.
7. **Prakash, H.S.** and Shekar Shetty, H. 1991. Indices of fungal deterioration of stored grains. Published in *Biodeterioration, Culture Collections and aspects of Applied Mycology* published by DOS in Applied Botany, UOM.

v) Monographs/Reports:

- Developed the Blue print for setting up of Asian Seed Health Centre and executed this project successfully under DANIDA support and Danish Seed Health Centre.
- Prepared Annual Reports on DANIDA programme
- Prepared the terminal evaluation report on the UNDP/FAO/GOI project on Quarantine

vi) Patents:

- A process for producing an entomophagous *Beauveria bassiana* biopesticide
Indian Patent No. 179400 dt. 3-11-1995
- Novel PCR primers to detect and identify *Bipolaris oryzae* in rice.
Indian Patent Application No.3365/CHE/2010
- Novel PCR primers for detection and identification of *Alternaria helianthi*.
Indian Patent Application No. 185/CHE/2011.

12. Conference/Seminar organized:

1. **Convened a session** “Seed Health and Food Security” in 3rd Global conference on Plant Pathology for Food Security, Organized by ISMPP at Udaipur, Rajasthan, Jan 10-13, 2012.
2. **Organized** one-day workshop on “Relevance of Conservation of Western Ghats for Plain Region”, sponsored by Western Ghats Task Force and Forest Department of Karnataka State on 13 Dec 2011.
3. **Organized** Seed Health Training for Asia and Pacific Seed Association (APSA) from 21 to 25 April 2008. Representatives for Seed Industries representing Hong Kong, Egypt, Phillipines, Korea, Thailand, Bangladesh and India participated in the training.
4. **Organizing secretary:** 2nd International symposium “Seed Health in Agricultural Development” (SHAD). 9th to 12th June 2008. Scientists from Denmark, Tanzania, Mozambique, Cameroon, Burkina Faso, Uganda, Nepal, Ghana, Kenya, Vietnam, China, Indonesia and India participated in the symposium jointly hosted by Department of Studies in Applied Botany and Biotechnology and Danish Seed Health Centre.
5. **Organized** Danish Seed Health Centre Co-coordinators meeting on 9th June 2008.
6. **Organized** DSHC Advisory Committee meeting on 12th June 2008.
7. **Convener:** 30th Annual conference of Indian Society of Mycology and Plant Pathology (ISMPP), and Symposium on Advances in Biotechnology from Plant Protection from 17- 19 2008.
8. **Convener:** National Seminar on “Molecular Plant Pathology and Biotechnology for Sustainable Crop Production”, organized by DOS in Applied Botany & Biotechnology, UOM, sponsored by Indian Phytopathological Society 28-29 Nov 2007.

13. Conference/Seminar chaired:

1. **Chaired a Technical session “Systematic – virus”.** American Phytopathological Society and Society of Nematologists (APS-SON) Joint meeting, July 28- August 1, 2007, Sandiego, California, USA.
2. **Chaired** a session on “Conservation of Plant and Microbial Diversity” in National Conference on Plant Diversity and Bioprospecting. Organized by DOS in Botany, UOM, 16-17 March 2009.
3. **Chaired** a session in National symposium on “Bioactive Molecules from Discovery to Industry” organized by DOS in Biochemistry, UOM, April 6-7, 2009.

14. Conference/Seminar participated:

International: 14

1. Molecular detection and multiplexing of some important seed-borne pathogens. 3rd International Symposium on SHAD & 6th National Symposium on seed pathology. Organised by Danish Seed Health Centre, Asian Seed Health Centre, African Seed Health Centre & Seed Health Centre of China Agricultural University held at China Agricultural University, Beijing, P.R. China during November 25-27, 2009.
2. Molecular Bar Coding of Seed-borne Pathogens. 5th International Conference on Plant Pathology in the globalized era. organised by Indian Phytopathological Society held at Indian Agricultural Research Institute, New Delhi held at Indian Agricultural Research Institute, New Delhi during November 10-13, 2009.
3. Plant growth promoting rhizobacteria mediated resistance against *Alternaria helianthi* in sunflower. First Asian PGPR Congress held at Acharya NG Ranga Agricultural University, Hyderabad jointly organised by Acharya NG Ranga Agricultural University, Hyderabad and Auburn University, USA during 21-24 June 2009
4. Diagnosis and characterization of Bean common mosaic virus. American Phytopathological Society and Society of Nematologists (APS-SON) Joint meeting, July 28- August 1, 2007, Sandiego, California, USA. Also **chaired a Technical session “Systematic – virus”**
5. 9th International Congress of Plant Pathology (ICPP), August 24-29, 2008, Italy, Torino. Gave an **invited presentation** on “Seed health initiatives at Asian Seed Health Centre”. Also presented a poster and Co-authored five other Abstracts presented in the congress.
6. 2nd workshop on Seed health testing 22-24, November 2008 China, Beijing at china Agricultural University, presented a lecture “Training and research activities at Asian Seed Health Centre”.
7. Course on seed pathology and seed health technology organized by the World Vegetable Centre (AVRDC) and the African Seed Health Centre at Sokoine University of Agriculture (SUA), Morogoro, Tanzania, 28 Feb to 9 Mar 2009, delivered two lectures (i) Seed-borne viruses of vegetable crops (ii) Seed health testing
8. Asia and Pacific Seed Association (APSA) – Seed Congress, 9-13 November 2008, Hyderabad. Attended as an invitee and participated in special interest Group Meetings.
9. First Asian PGPR Congress for Sustainable Agriculture, 21-24 June 2009. Organized by Acharya N G Ranga Agricultural University, India & Auburn University, USA at ANGRAU, Hyderabad, Presented four papers (i) PGPRs in crop production systems (ii) Plant growth promoting rhizobacteria mediated resistance against *Alternaria helianthi* in sunflower, (iii) Plant growth promoting endophytic bacterium mediated resistance against brown spot disease of paddy.
10. Global Conference on Advances in Research on Plant Diseases and their Management”. Udaipur, Feb 12-17, 1995. Presented an invited paper on “Role of virus diseases and seed health testing in India: An overview”.
11. International workshop on Biodeterioration, culture collections and aspects of Applied Mycology, DOS in Applied Botany, Mysore, Nov 18-29, 1991
12. International conference on Virology in the tropics, Indian Virological Society, NBRI, Lucknow, Dec 2-6, 1991
13. Third International Symposium on Plant Pathology, IPS, IARI, New Delhi, Dec 14-18, 1981
14. International Paul Neergaard Commemoration Symposium on Seed Science & Technology, Mangalore University and CFTRI, Mysore, Oct 6-8, 1988

National: 29

1. Diversity and bioactive potential of bark and twig fungal endophytes of medicinal trees. International Conference on Mycology and Plant Pathology, Biotechnological Approaches, Feb 27-29, 2012. CAS in Botany, BHU, Varanasi. (Invited Lecture).
2. Post-harvest implications of seed-associated microorganisms. Lead lecture delivered at the 3rd Global Conference on Plant Pathology for Food Security held at Maharana Pratap, organized by Indian Society of Mycology and Plant Pathology and Maharana Pratap University of Agriculture and Technology, Udaipur. January 10-13, 2012. P.06.

3. Induction of systemic acquired resistance in tomato plants by chitosan against early blight disease. 3rd Global Conference on Plant Pathology for Food Security held at Maharana Pratap, organized by Indian Society of Mycology and Plant Pathology and Maharana Pratap University of Agriculture and Technology, Udaipur. January 10-13, 2012. P.42.
4. Real time PCR and SYBR Green I melting curve analysis for the identification of Tobacco streak virus. 3rd Global Conference on Plant Pathology for Food Security held at Maharana Pratap, organized by Indian Society of Mycology and Plant Pathology and Maharana Pratap University of Agriculture and Technology, Udaipur. January 10-13, 2012. P.93.
5. Inhibition of TMV multiplication by RNA interference against host transmembrane proteins TOM1 and TOM3. National symposium on Biology of infection, immunity and disease control in pathogen-plant interactions and 64th IPS annual meeting, December 2-4, 2011, School of Life Sciences, Dept. of Plant Sciences, Central University of Hyderabad (Invited lecture). P 4.
6. The Evolution of seed health testing. XXXIV All India Botanical Conference, Oct 10-12, 2011, Department of Botany, Univ. of Lucknow. (Prof. V. Puri Award lecture)
7. Induction of disease resistance against *Plasmopara halstedii* infecting sunflower and tobamoviruses infecting tomato and pepper. National symposium on Advances in abiotic and biotic stress management of plants. September 23-24, Department of Botany, University of North Bengal, Siliguri. pp.4-5 (Plenary lecture)
8. Molecular bar coding of seed borne fungal pathogens. National Symposium on Molecular Approaches for Management of Fungal Diseases of Crop Plants, December 27-30, 2010. Indian Institute of Horticultural Research, Hesaraghatta, Bangalore (Lead presentation).
9. Biodiversity of plants and endophytes with special reference to Western Ghats and their bioactive potential. National Conference on Biotechnology for All, 29-30, December 2010. North Maharashtra University, Jalgaon (Plenary lecture)
10. Barcoding of seed-borne pathogens. XX Indian Convention of food scientist and technologist. 21-23 December 2009. Organized by Association of food scientist and technologist (India), Mysore at NIMHANS convention centre, Bangalore. (Lead talk)
11. Diversity and Bioprospecting of endophytes. National Conference on Plant Diversity and Bioprospecting. Organized by DOS in Botany, UOM, 16-17 March 2009. (Lead talk)
12. National Seed congress - 2008, 22-23, December 2008 organized by University of Agricultural Sciences, Bangalore and National seed Research and Training Centre, Varanasi at GKVK, Bangalore; Presented an invited lead paper "Seed Health Management in Quality Assurance".
13. 30th Annual conference of ISMPP & symposium on Advances in Biotechnology for Plant Protection, at DOS in Applied Botany & Biotechnology, 17-19 November 2008, Keynote address "Molecular database and diagnosis of seed-borne pathogens"
14. Seminar on "Biotechnology for Human Welfare", DOS in Biotechnology & Microbiology, Karnataka University, 12-13 March 2007. Delivered a lecture on "Plant endophytes"
15. Seminar "Current Topics in Microbiology" at Department of Microbiology, Kuvempu University campus, Davanagere, 28-29 January 2005, Inaugurated the seminar and gave two lectures i) Non-culturable microorganisms ii) Current status of plant virus classification
16. Silver Jubilee Year celebration of Mangalore University – Seminar on "Recent Advances in Microbiology" organized by PG Department of Microbiology, Madikeri, 12-13 February, 2005. Delivered a talk on "Bioactives from endophytes".
17. UGC-sponsored Regional level seminar on "Biodiversity for Food Security" at Yuvaraja's College, Mysore, 24-25 June 2005. Delivered a talk on "Gene Revolution for Food Security"
18. Trendys in Biochemistry, Meeting at CFTRI, Mysore 5-6 October 2004. Presented an invited talk on "Metagenomics to assess genetic and functional diversity of non-culturable microorganisms"

19. Participated in Conference on “Indo-Danish Strongholds and Possibilities of Business and Research Collaborations” organized by Royal Danish Embassy at Hotel Leela Palace, Bangalore, 27 October 2004.
20. 2004 – National seminar on Emerging Trends in Applied Botany, Seed Science and Technology 4-6, 2004. Presented a paper on “DANIDA Seed Health Centre at UOM”.
21. 1995 National Seminar on Seed Pathology. Mar. 23-25, 1995. “Role of virus diseases on quality and yield of seeds”.
22. Ibid. “Problem of antisera cross-reactivity in detecting TMV and ToMV associated with tomato seed”.
23. Ibid. “Detection of tobamovirus in seeds of pepper and its elimination by seed treatment”.
24. MICON International 94 & 35th Annual Conference of AMI, Mysore, Nov 9-12, 1994. “Serodiagnosis for plant Viruses”.
25. Annual conference of Association of Microbiologists of India, Goa University, Nov 5-7, 1992. Pathogenicity of seed-borne fungi of cotton and their control of seed treatment.
26. Seminar on “Weeding out Parthenium”, Department of Ecology & Environment, Karnataka Pollution Control Board, Vidhana Soudha, Bangalore, Aug 24, 1991
27. Meeting of Rabi/summer Regional Research Advisory Council/Formulation committee, University of Agricultural Science, Bangalore, VC Farm Mandya, Oct. 21-22, 1991
28. Task force meeting of Department of Biotechnology, DBT, New Delhi, Loyola College, Madras, Jan 19, 1991
29. All India Coordinated Workshop on Seed-Borne Diseases, IARI, New Delhi, June 6-7, 1988
30. National symposium on Yeast for alcohol & fat production, AMI, CFTRI, Mysore Sept 23-24, 1987
31. All India Coordinated Seed-borne disease workshop, ICAR, TNAU, Coimbatore, Nov 25-27, 1987
32. All India Coordinated Seed-borne disease workshop, ICAR, Solan, HP, May 27-29, 1985
33. 70th Indian Science Congress, Tirupathi Jan 3-7, 1983
34. 69th Indian Science Congress, University of Mysore, Jan 3-7, 1983
35. Aerobiology workshop, Society of Aerobiology, Dept. of Botany, Mysore, Jan 21-23, 1982
36. First All India Comparative Seed Health Testing Workshop, UOM, UGC and DGISP, Denmark, at Department of Applied Botany, Mysore, July 1-6, 1980

15. Chairman/Member of Authority/Committee etc:

- **Chairman**, BOS in Applied Botany, UOM, 2011-15
- **Chairman**, BOS in Biotechnology, UOM, 2008-10
- **Member of BOS**, Biomedical Sciences, JSS University. 2010-13.
- **Member of BOS in Biotechnology**, JSS Autonomous college, 2011-14.
- **Chairman of committee** for selection of candidates from CFTRI for Ph.D. from CSIR academy, 2011-12.
- **Member of Assessment committees** for assessment of Technical Officers of CFTRI for promotion under MANAS of CSIR 2012.
- **Member of IBSC**, Biotechnology Centre of Coffee Board, Mysore, 2011-13.
- **Team leader of Joint Terminal Evaluation Mission of the Government of India/FAO/UNDP** from 19-31 March 2001 on “Development and Strengthening of Plant Quarantine Facilities” (IND/92/032). Other members of the team were Dr. Felipe Canale Valdez, International FAO Consultant, Uruguay; Dr. Raj Singh, Joint Director (Bio), Central Insecticides Laboratory, Faridabad (Representative of the Government of India). The budget allocated for this project was US \$16,237,189. The mission has visited the quarantine stations at New Delhi, Calcutta, Mumbai, Chennai and Amritsar, seen the facilities, interacted with the concerned staff, and presented the report to the ministry, and UNDP.
- **Chairman:** Committee constituted for developing a proposal for **Centre of Excellence** under the **Institution of Excellence awarded to University of Mysore by the Government of**

- India, 2008.** A proposal on “Biodiversity, Bioprospecting and Sustainable Management” for Rs. 50.37 crores has been prepared which is now accepted by HRD Ministry of GOI.
- **Member:** National Project Steering Committee for the International Project on “Increasing the resilience of coffee plants to coffee rust and other diseases in India, Kenya, Uganda, Rwanda and Zimbabwe”, coordinated by Central Coffee Research Institute, Chikmagalur Dist., Karnataka, India
 - **Member:** Central Assessment Committee of CFTRI, Mysore to review/assess the work of Research Scholars working at CFTRI and to upgrade the Fellowship/extend the tenure of Fellowship, since 1998
 - **Member:** Committee for assessment of CSIR Diamond Jubilee Interns in CFTRI
 - **Member:** National Advisory Committee, 2nd National Conference on Biotechnology for Rural and Industrial Development NCBIRD – 2008, Department of Biotechnology, Gulbarga University, January 17-19, 2008.
 - **Councillor:** Indian Botanical Society 2008-10
 - **Editor member:** Journal Mycology & Plant Pathology
 - **Evaluator:** Research Grant Application of International Foundation For Science, Stockholm, Sweden
 - **Peer reviewer:** DANISH development research application for Project funding
 - **Reviewer:** Project proposal of Central Sericultural Research & Training Institute (CSRTI), Mysore
 - **Reviewer:** Project proposals from DBT including Indo-Australian project
 - **Member:** Board of Studies in Biotechnology/Applied Botany in several universities
 - **Member:** Board of Appointment in Tamil Nadu Agricultural University, Calicut University, Kuvempu University and Mangalore University
 - **Member:** of Animal Ethics Committee of CFTRI since last six years
 - **Member:** Biosafety committee of CFTRI, 2004-07
 - **Member:** Animal Ethics Committee of University of Mysore, 2002-08
 - **Chairman:** Sub-committee of IAEC on Animal cell culture facility, CFTRI, 2003
 - **Expert member:** DFRL stores purchase committee, 2003
 - **Expert member:** Equipment purchase committee, Kuvempu University
 - **Member (subject expert):** Recruitment and Assessment committee of CSIR
 - **Subject expert:** Affiliation committees University of Mysore and Kuvempu University
 - **Member:** Faculty of Science & Technology, Mangalore University, 2007-09
 - **Member:** District level Advisory Committee on Employment Park, Mysore, 2004-05
 - **Member:** District level Disaster Management Committee, Mysore, 2004-05
 - **Expert member:** for inspection of Malavalli Foundation for MoU with UOM, 2005-06
 - **Member:** Selection committee – Flour Milling Technology Certificate Course of International School of Milling Technology, CFTRI, since 2005
 - **Member:** Selection committee – M.Sc. Food Technology, CFTRI, since 2005
 - **Delivered lectures** in various seminars
 - **Acted as resource person** for orientation/refresher courses of Academic staff colleges of several universities
 - **Best paper award** for the paper published in Seed Research in the year 2000
 - Students have got several best paper/poster awards in various conferences and workshops
 - One student Dr. Babitha got the **young scientist award in the Indian Science Congress**

16. Membership to professional Organization/Associations:

- Indian Phytopathological Society (Life)
- Indian Botanical Society (Life)
- Indian Science Congress Association (Life)
- Indian Society of Mycology & Plant Pathology (Life)
- Indian Virological Society (Life)
- Indian Society of Seed Technology (Life)
- Association Food Scientists and Technologists (Life)

- Society of Biopesticide Sciences India, Jalandhar, India (Life)
- Adike Patrike (Life)
- Nature – Since 2004
- Nature Biotechnology – Since 2004
- Indian Journal of Biotechnology - Since 2007
- Spice India (Life)

17. Any other Information:

Visits abroad:

1. **China: 25-27 August, 2010.** Visited China Agricultural University, Seed Health Centre, to attend 3rd International Symposium on SHAD and presented an invited paper on molecular detection and multiplexing of some important seed-borne pathogens.
2. **Bangladesh: December 11-19, 2009.** Joint research activities in the area of molecular detection of seed-borne viruses and use of FTA technology at Seed Pathology Centre (SPC), Bangladesh Agricultural University, Mymensingh.
3. **Denmark: October 23 to 1 November, 2009.** To prepare the regionalization proposals and finalize the joint publications.
4. **Vietnam: August 23 to September 03, 2009.** To establish linkages with Vietnam partners to develop joint projects in common area of interest at National Centre for Plant and Fertilizer Testing, Vietnam.
5. **Tanzania: 28 February to 9 March, 2009.** To deliver lectures for the participants of course on seed pathology and seed health technology organized by the World Vegetable Centre (AVRDC) and the African Seed Health Centre at Sokoine University of Agriculture (SUA), Morogoro.
6. **China: 22-30 November, 2008.** Visited China Agricultural University, Seed Health Centre, to deliver lectures for 2nd Workshop on Seed health training and discuss regionalization activities.
7. **Denmark: 11-22 October, 2008.** Visited Danish Seed Health Centre (DSHC) for planning activities for regionalization and review of ongoing DANIDA programme.
8. **Bangladesh: 21-28 September, 2008,** Bangladesh Agricultural University, Seed Pathology Centre, as part of regionalization of DANIDA programme on Seed Health training and research. Also visited Bangladesh Rice Research Institute and Jahangir University.
9. **Italy: 21–31 August, 2008.** Attended and presented an invited paper in the 9th International Congress of Plant Pathology (ICPP-1008) at Torino.
10. **Nepal: 4-11 May, 2008.** Visited Nepal Agricultural Research Council, Khatmandu as part of regionalization efforts of seed pathology training and research programme of DANIDA.
11. **USA: 28 July – 1 Aug, 1997,** American Phytopathology Society (APS) meeting.
12. **Denmark: Visiting Scientist, Preparation of project document on Transfer of courses, 2-weeks, 2006.**
13. **Tanzania: First Seed Health for Agricultural Development (SHAD-2006) at SUA, Morogoro, 2006.**
14. **Denmark: Preparation blue print and project document for the transfer courses (ToC) in seed pathology from DGISP to UOM, Two months, 2002.**
15. **Denmark: Preparation of project document on ToC, One month, 2001.**
16. **Germany: Visited Institute of Plant Pathology, Gettersleben to deliver an invited lecture.**
17. **Japan: 10-16 Nov 1993,** Training course of Transmission Electron Microscope at JEOL LTD., Tokyo, Japan.

Advanced training/workshops attended:

- Certificate of achievement for successful completion of training in “In-service Fellowship in Crop Improvement” with special reference to Pearl Millet Pathology at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Hyderabad, 17-21 Feb 1986
- Short course on “Management of Plant Diseases by Non-chemical Methods” at Tamil Nadu Agricultural University (TNAU), Coimbatore, 20-29 June 1989
- Training course of Transmission Electron Microscope at JEOL LTD., Tokyo, Japan, 10-16 Nov 1993
- Seed health testing training course for detecting viruses on seeds at Danish Government Institute of Seed Pathology for Developing Countries (DGISP), Copenhagen, Denmark, 24 May – 18 June, 1993 under the Project: Development of Seed Pathology Research and Training Facilities at the University of Mysore, India under the auspices of The Danish International Development Assistance DANIDA and DGISP
- Workshop on Applications of Electron Microscopy in Medicine and Biotechnology at CCMB, Hyderabad, 6-11 Nov 1995
- Laboratory workshop on “Purification and Characterization of Plant Proteins and Basic Recombinant DNA Techniques” Departments of Biochemistry and Microbiology and Cell Biology, Indian Institute Science, Bangalore, Feb 24 – Mar 3, 1997.
- Biotechnology & Intellectual Property Rights at National Law School of India University, Bangalore, 20-25 January 2003. Sponsored by DBT, Govt. of India, New Delhi
- Two day workshop on “Drawing and Disbursing officers” organized by the Academic College, University of Mysore, 29-30 July 2005.

Establishment of Laboratories/special facilities

- Developed the research proposal for the Institution of Excellence scheme of Rs. 100 crores awarded by GOI-MHRD-UGC and coordinating the research activities as Coordinator – Planning.
- Established the central instrumentation facility for IOE scheme with LC-MS-MS, confocal microscopy, fluorescent microscope, polarizing microscope, DNA sequencer, Flow cytometry, multimode plate reader, fermentors/bioreactors etc.
- Established Transmission Electron Microscope and seed virology facilities under DANIDA-ENRECA programme
- Established infrastructure facilities including building, equipment, furnishing under DANIDA Seed health training and research programme
- Established International Hostel under DANIDA Seed Pathology Training Programme
- Established lab and field facilities for disease tolerance screening under ADVANTA Seed Company Project
- Established stock culture collection and natural product library of endophytes from medicinal plants/trees
- Established molecular marker facilities including Real Time-PCR

Editorial Boards/Referee

- Asian Journal of Plant Science
- Indian Journal of Mycology & Plant Pathology
- Current Science
- Indian Journal of Biotechnology
- Indian Journal of Agricultural Research
- Journal of Phytopathology (UK)

(SIGNATURE)