

FACULTY PROFILE



1. Name: **DR. S. UMESHA**
2. Designation: **PROFESSOR**
3. Email id: su@appbot.uni-mysore.ac.in; pmumesh@gmail.com
4. Phone No.: + 91 821 2419884
5. Qualification: *MSc, MPhil, PhD, Post Doc (USA), FISBT, FNABS, FISMPP.*
6. Area of Specialization: **Molecular Diagnostics of Plant, Food and Animal Pathogens, Plant Biotechnology, Molecular Plant Pathology, Host-Pathogen Interactions, Seed Bacteriology, Tissue Culture.**
7. Awards/Recognitions:
 - Dr. U.I. Baby Endowment Lecture delivered on 10 May 2021 on the topic, **Biotechnological Approaches in Plant Diseases Management**, organized by AMET (Academy of Marine Education and Training; Deemed to be University), Kanathur, Chennai – 603 112, Tamil Nadu
 - **Awarded Prof. VP Bhide Memorial Award Lecture** from Indian Society of Mycology and Plant Pathology, Udaipur, on 24th Sept 2019 at 40th Annual Conference and National Symposium held on 24-26 Sept 2019 at KUD, Dharwad.
 - Awarded Fellowship from Indian Society of Mycology and Plant Pathology, Udaipur, **FISMPP-2015.**
 - Elected, Zonal President, for south zone of Indian Society of Mycology and Plant Pathology, Udaipur, - 2015-16, Udaipur, India.
 - Awarded the Fellowship from the National Academy of Biological Sciences, Chennai, **FNABS 2015**
 - Awarded the Fellowship from the International Society of Biotechnology, India, **FISBT (2010).**

- Awarded Best Research Paper at the National Seminar on New frontiers in Plant Sciences and Biotechnology held at Department of Botany, Goa University, Goa. During 29-30 January 2015.
- Awarded Best Research Poster at the National Seminar on New frontiers in Plant Sciences and Biotechnology held at Department of Botany, Goa University, Goa. During 29-30 January 2015.
- Smt Guman Devi Verma Award for Best Research Paper award by Indian Society of Mycology and Plant Pathology. 2013-14 Akola, Maharashtra, India.
- Best Research paper award in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21st November 2012
- Best poster award in National Conference on Biotechnology and society, held at Kuvempu University, Shankaraghatta, India, during 19th and 20th April 2012.
- Best poster award in Eleventh all India conference on cytology and genetics, held at Bangalore, India, during 23 -25 January 2012.
- Awarded Jagajyothi Sri Basaveshwara Kayakashree Award 2010 on 29th July 2010-11, from Vishwa Veerashaiva Samskruthi Prathisthana, Bangalore, India.
- Fellow Member - International Society of Biotechnology, India.
- Elected, Plant Sciences - Sectional Committee Member, for south zone of Indian Science Congress Association - 2009-10, Kolkata, India.
- Awarded Overseas Fellowship for the year 2005-06 from Department of Bio Technology, Government of India, New Delhi and carried out Post Doctoral Research at Virginia Tech University, Virginia, USA, for the period from March 2007 to March 2008.
- Elected, Zonal Councilor, for south zone of Indian Phytopathological Society- 2006- 07, New Delhi, India.
- Awarded "DST-SERC Fast Track Research Proposal entitled, "Development of Sensitive Seed health Testing methods for the detection of *Clavibacter michiganensis* ssp. *Michiganensis* and management of Bacterial Canker Disease in Tomato" under young Scientists' scheme, Department of Science and Technology, Govt. of India, New Delhi.
- Awarded "Professor K.S. Jagadishchandra Young Scientist award for Plant Sciences for the Calendar year 2000-2001", University of Mysore, Mysore 570 006, India.
- Best research paper presentation award at ISMPP Annual Conference at University of Agricultural Sciences, Dharwad, Karnataka, during 8-9 Oct 2009.
- Best research paper presentation award at National Symposium of Seed Science and Technology at University of Mysore during 5-9 Aug 1999.

8. Number of Projects:

i) Ongoing

- **Coordinator: DBT-HRD Programme on M.Sc. Biotechnology for Five years (2020-21 to 2024-25; Fifteenth Finance Commission)** funded by DBT; Ministry of Science and Technology, New Delhi (Total Grants: Rs. 222 L).

ii) Completed

Sl. No.	Title of the project	Funding Agency	Amount (in Rupees)	Year (From-To)
1.	Development of diagnostic techniques for detection of food borne Pathogens/ toxins and their management (PI)	DBT; Govt. of India, New Delhi	34, 37,600-00	2014-2017
2.	Training and Demonstration on Cultivation of Cut Flowers and Orchids for Rural Entrepreneurship in Mysore and Chitradurga Districts of Karnataka (PI)	DBT; Govt. of India, New Delhi	30,00,000-00	2014-2017
3.	Seed Health Testing of Tomato and Hot Pepper for Bacterial canker and speck by PCR method	East-West Seeds India Pvt. Ltd. Aurangabad, MH, India	9,00,000-00	2014-2017
4.	Development of PCR-SSCP technique for the specific diagnosis of bacterial spot and wilt pathogens in tomato (PI)	UGC; Govt. of India, New Delhi	11,28,300-00	2009-2012
5.	Investigations on Bacterial Spot of Tomato and its Management (PI)	UGC; Govt. of India, New Delhi	7,74,600-00	2005-2008
6.	Investigations on Epidemiology and Management of Bacterial Blight of Cotton caused by <i>Xanthomonas axonopodis</i> pv. <i>malvacearum</i> (Co-PI)	Dept. of Agric. Govt. of Karnataka, Bangalore	12,00,000-00	2002-2006
7.	Development of Sensitive Seed health Testing methods for the detection of <i>Clavibacter michiganensis</i> ssp. <i>michiganensis</i> and management of Bacterial Canker Disease in Tomato (PI)	DST-SERC; Govt. of India, New Delhi	5,20,800-00	2002-2006

9. Number of Ph.D. candidates successfully completed: 12

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

11. Number of M.Phil. candidates successfully completed: 25

12. Number of M.Phil. candidates currently working: NIL

13. Publications:

i) Books (Authors, Title, Publisher, Year of Publication, Pages):

Books Authored

1. **Umesha, S. 2017.** Plant Biotechnology. TERI Publishing House, New Delhi. ISBN: 9788179935033

2. **Umesha, S.**, Prakash, H.S., Niranjana, S. R. and Bharathi, P.S. 2015. Souvenir of **Biological Products for Crop, Animal and Human Health – Problems and Prospects**. Department of Biotechnology, University of Mysore, Mysore.

Book Chapters Contributed:

1. **Umesha, S.** Diversity of Seed-borne bacterial Phytopathogens. In: Seed-borne Diseases of Agricultural Crops; Detection, Diagnosis and Management (Eds. Ravindra Kumar and Anuja Gupta). **Springer publishers**, Singapore, 2020. p307-328 .
2. **Umesha, S.**, Manukumar, H.M., and Chandrasekhar, B. Sustainable Agriculture and Food Security, In: Biotechnology for Sustainable Agriculture (Eds. Singh, R.L. and Mondal, S.) **Elsevier Science Ltd. UK**. 2017, p 67-92.
3. **Umesha, S.**, Singh, K.P. and Singh, R.P. Microbial Biotechnology and Sustainable Agriculture, In: Biotechnology for Sustainable Agriculture (Eds. Singh, R.L. and Mondal, S.) **Elsevier Science Ltd. UK**. 2017, p 185-206.
4. Girisha, S.T. and **Umesha, S.** 2006. Phyllosphere Studies in Sewage Water Irrigated Fodder Grass *Brachiaria mutica*. In: **Green Technologies for Sustainable Agriculture** (Arvind Kumar and Pushpalatha Dubey, eds), **Daya Publishing House**, New Delhi, India (**ISBN: 8170354196**) p 41-46.
5. Girisha, S.T. and **Umesha, S.** 2006. Variation in the Morphological Characters of *Brachiaria mutica* Due to urban Sewage Water Irrigation. In: **Concepts of tropical Agriculture** (Arvind Kumar, ed), **Daya Publishing House**, New Delhi, India (**ISBN: 8170354471**) p 288-296.

ii) Articles in Journals (Authors, Title, Year, Journal, Volume, Pages)

1. **Umesha, S.** and Sriraghava. 2021. Advanced Molecular Diagnostics for the detection of Plant Pathogenic Bacteria. **Indian Phytopathology** 74:431–436.
2. Sriraghava., Mbae, K.M. and **Umesha, S.** 2021. Green synthesis of silver nanoparticles by *Rivina humilis* leaf extract to tackle growth of *Brucella* species and other perilous pathogens. **Saudi Journal of Biological Sciences** 28:495-503.
3. Mbae, K. M. and **Umesha, S.**, 2020. Physicochemical and antimicrobial properties of post-synthesis betanin and chitosan oligosaccharide functionalized silver Nanoparticles. **Journal of Nanoparticle Research** 22:346.
4. Manukumar, H. M., Yashwanth, B., **Umesha, S.** and Venkateswara Rao, J. 2020. Biocidal mechanism of green synthesized thyme loaded silver nanoparticles (GTAgNPs) against immune evading tricky methicillin-resistant *Staphylococcus aureus* 090 (MRSA090) at a homeostatic environment. **Arabian Journal of Chemistry** 13:1179-97.
5. Sri Raghava, Rajeshwari, S. and **Umesha, S.** 2019. Epidemiological studies of Bovine Brucellosis in rural villages of Mandya district, Karnataka, India. **Research Journal of Life Sciences, Bioinformatics, Pharmaceutical and Chemical Sciences** 5(4):159-168.

6. Mbae, K. M., **Umesha, S.**, and Manukumar, H. M. 2018. Therapeutic properties of lectins in herbal supplements. *Phytochemistry Reviews* 17:627-643.
7. Sri Raghava and **Umesha, S.** 2018. Brucellosis, a review on the diagnostic techniques and medicinal plants used in the management of Brucellosis. *World Journal of Pharmacy and Pharmaceutical Sciences* 7(6):1511-1544.
8. **Umesha, S.** and Manukumar H.M. 2018. Advanced Molecular Diagnostic Techniques for Detection of Food-borne Pathogens; Current Applications and Future Challenges. **Critical reviews in Food Science and Nutrition** 58(1): 84-104.
9. Karthik, C. S., Manukumar, H. M., Ananda, A. P., Nagashree, S., Rakesh, K.P. Mallesha, L., Hua-Li Qin, **Umesha, S.**, Mallu, P. and Krishnamurthy, N. B. 2018. Synthesis of novel benzodioxane midst piperazine moiety decorated chitosan silver nanoparticle against biohazard pathogens and as potential anti-inflammatory candidate: A molecular docking studies. **International Journal of Biological Macromolecules** 108: 489-502.
10. Avinash, P. and **Umesha, S.** 2018. Effect of growth hormones in induction of callus, antioxidants and anti-bacterial activity in *Nerium odorum*. *Journal of Applied Biology and Biotechnology* 6 (4): 21-25.
11. Manukumar, H. M., Chandrasekhar, B., Rakesh, K. P., Ananda, A. P., Nandhini, M., Lalitha, P., Sumathi, S., Hua-Li Qin and **Umesha, S.** 2017. Novel T-C@AgNPs mediated biocidal mechanism against biofilm associated methicillin-resistant *Staphylococcus aureus* (Bap-MRSA) 090, cytotoxicity and its molecular docking proofs. **Medicinal Chemical Communications** 8:2181-2194.
12. Sri Raghava and **Umesha, S.** 2017. Antibrucellosis activity of medicinal plants from Western Ghats and characterization of bioactive metabolites. **Pharmacognosy Journal** 9(6):s122=8.
13. Manukumar, H. M. and **Umesha, S.** 2017. MALDI-TOF-MS based identification and molecular characterization of food associated methicillin-resistant *Staphylococcus aureus*. **Scientific Reports** 7: 11414. doi:10.1038/s41598-017-11597-z.
14. Manukumar, H. M. and **Umesha, S.** 2017. Photocrosslinker technology: An antimicrobial efficacy of cinnamaldehyde cross-linked low-density polyethylene (Cin-C-LDPE) as a novel food wrapper. **Food Research International** 102: 144-155.
15. Ananda, A. P., Manukumar, H. M., **Umesha, S.**, Sowmya, G., Priyanka, D., Mohan Kumar, A. S., Krishnamurthy, N. B. and Savitha, K. 2017. A relook at food packaging for cost effective by incorporation of novel technologies. **Journal of Packaging Technology and Research** 1(1): 65-85.
16. Shiva Kumar, J. and **Umesha, S.** 2017. Quorum quenching activity of rhizosphere bacteria against *Ralstonia solanacearum*. **Rhizosphere** 4: 22-24.
17. Sri Raghava, Manukumar, H.M., Rajeswari, S., Madhuri, K. and **Umesha, S.** 2017. Epidemiological and Molecular characterization of *Brucella* species in cattle. **Asian Journal of Animal Sciences** 11: 123-131.
18. Manukumar, H. M., **Umesha, S.** and Naveen Kumar, H.N. 2017. Promising biocidal activity of thymol loaded chitosan silver nanoparticles (T-C@AgNPs) as anti-infective agent against perilous pathogens. **International Journal of Biological Macromolecules** 102:1257-1265.
19. Avinash, P., Darren Grice., Vinay kumar, K.S., Sadashiva, M.P., Shankar, H.N and **Umesha, S.** (2017). Extracellular polysaccharides from *Ralstonia solanacearum*, a strong inducer of eggplant defense against bacterial wilt. **Biological Control** 110:107-116.

20. Manukumar, H. M., Shiva Kumar, J., Chandrashekar, B., Sri Raghava. and **Umesha, S.** 2017. Evidences for Diabetes and Insulin Mimetic Activity of Medicinal Plants: Present Status and Future Prospects. **Critical reviews in Food Science and Nutrition** 57(12):2712-2729.
21. Chandrasekhar, B. and **Umesha, S.** and Naveen Kumar, H.N. 2017. Proteomic analysis of the Salicylic acid enhanced disease resistance in bacterial wilt affected chilli (*Capsicum annuum*) crop. **Physiological and Molecular Plant Pathology** 98:85-96.
22. **Umesha, S.** and Roohie, K. R. 2017. Role of *Pseudomonas fluorescens* and INA against Black rot of Cabbage. **Journal of Phytopathology** 165:265-275.
23. Avinash, P., **Umesha, S.** and S. Marahel. 2017. Role of Hydrogen Peroxide and Ascorbate-Glutathione Pathway in Host Resistance to Bacterial Wilt of Eggplant. **Russian Journal of Plant Physiology** 64(3):375-385.
24. **Umesha, S.**, Manukumar, H. M., Chandrasekhar, B., Shivakumara, P., Shiva Kumar, J., Sri Raghava, Avinash, P., Shirin M., Bharathi, T. R., Rajini, S. B., Nandhini, M., Vinaya Rani, G., Shobha, M. and Prakash, H. S. 2017. Aflatoxins and Food Pathogens: Impact of Biologically Active Aflatoxins and their Control Strategies. **Journal of Science of Food and Agriculture** 97:1698-1707.
25. Chandrashekar, S., **Umesha, S.**, Chandan, S. and Shruthi, G. 2017. Detection and Identification of *Xanthomonas perforans* by direct sequencing and *in silico* analysis of hrpB gene. Indian Journal of Natural Sciences 7(40): 11952-11965.
26. Shiva Kumar, J. and **Umesha, S.** 2017. Enhancement of the expression of the defense genes in tomato against *Ralstonia solanacearum* by N-octanoyl L-homoserine lactone. African Journal of Microbiology Research. 11(5):194-203.
27. Shirin, M. and **Umesha, S.** 2016. Anti-inflammatory and antinociceptive effect of *Pachygone ovata*. **Pharmaceutical Biology** 54 (12): 3046-3054.
28. Avinash, P. and **Umesha, S.** 2016. Biochemical and molecular variations of guaiacol peroxidase and total phenols in bacterial wilt pathogenesis of *Solanum melangena*. **Biochemistry and Analytical Biochemistry** 5(3): 292-298.
29. **Umesha, S.**, Manukumar, H.M. and Sri Raghava. 2016. A rapid method for isolation of genomic DNA from food-borne fungal pathogens. **3 Biotech** 6:123- 131.
30. Avinash, P., **Umesha, S.**, Sri Raghava, and Shirin, M. 2016. Discrimination of *Ralstonia solanacearum* isolates by genetic signatures produced by SSCP and LSSP PCR analysis. African Journal of Microbiology Research. 10(30): 1128-1139.
31. Madhushree, N.N., Chandrashekara, P.G. and **Umesha, S.** 2016. Synthesis, Spectral and Antimicrobial Studies on Co(II) complexes of N-Substituted 2-Chloro Phenothiazenes. **Indo American Journal of Pharmaceutical Research** 6(2):4399-4410.
32. Shiva Kumar, J., **Umesha, S.**, Shivaprasad, K and Niranjana, P. 2016. Detection of Quorum sensing molecules and biofilm formation in *Ralstonia solanacearum*. **Current Microbiology** 72:297-305.
33. Chandan, S., **Umesha, S.**, Shruthi, G. and Balamurugan, V. 2016. Use of *rpoB* gene analysis for detection and identification of *Leptospira* species by direct sequencing. **European Journal of Biotechnology and Bioscience** 4(1): 34-43.

34. Shaji, K.P., **Umesha, S.** and Bharathi, P. Salimath. 2015. A novel liquid oral formulation for 1-Octocosanol an anticancer drug and its stability study. *International Journal of Pharmacy and Analytical Research*. 4(3):202-209.
35. Roohie, K. R. and **Umesha, S.** 2015. Identification of differentially expressed genes associated with black rot resistance in cabbage through suppression subtractive hybridization. **3Biotech** 5:1089-1100.
36. Roohie, K. R. and **Umesha, S.** 2015. Identification of differentially expressed genes during *Pseudomonas fluorescens* mediated systemic resistance. *Plant* 3(4):30-36.
37. **Umesha, S.** Jyothi N and Roohie, K. R. 2015. Detection of bacterial and Fusarium wilt pathogens in cabbage by multiplex PCR. *Journal of Plant Science* 3(4):185-190.
38. Manukumar, H.M. and **Umesha, S.** 2015. Assessment of membrane stabilizing activity from honey; An *in vitro* approach. *Acta Sci. Pol. Technol. Aliment.* 14 (1): 85-90.
39. Chandrasekhar, B. and **Umesha, S.** 2015. Molecular characterization and phylogenetic analysis of *Ralstonia solanacearum* isolates using HrpB gene. **Journal of Phytopathology** 163(2):105-115.
40. **Umesha, S.** and Avinash, P. 2015. Multiplex PCR for simultaneous identification of *Ralstonia solanacearum* and *Xanthomonas perforans*. **3Biotech** 5:245-252.
41. Shaji, K.P., **Umesha, S.** and Bharathi, P. Salimath. 2014. Synthesis of 1-Octocosanol from 1, 12 Dodecanediol and Cetyl alcohol. *International Journal of Chemical and Pharmaceutical Sciences*. 5(4):101-105.
42. Shirin, M, **Umesha, S** and Behrouz J. 2014. Pharmacognostic, Physico-chemical and Phytochemical analysis of *pachygone ovata* leaf. *International Journal of Pharma and Bio Sciences* 5(4): 39-53.
43. **Umesha, S.**, Chandan, S., Gopinath, S.M. and Shareef, M.I. 2014. Detection of *Leptospira* in canine samples using PCR based on *LipL32* gene and biochemical profiles in canine Leptospirosis. *Journal of Cell Science and Molecular Biology* 1(1): 105-109.
44. Chandan, S., and **Umesha, S.** 2014. Molecular Detection of *Leptospira* using polymerase chain reaction based on *LipL32* and *rpoB* gene. *Research and Reviews: Journal of Veterinary Science and Technology* 3 (1): 16-23.
45. Roohie, K. R. and **Umesha, S.** 2014. Assessment of defense responses in resistant and susceptible cabbage cultivars during infection with *Xanthomonas campestris* pv. *campestris*. **Journal of Mycology and Plant Pathology** 44 (1): 41-45 (**Smt Guman Devi Verma Best Research Paper Award**).
46. Chandrashekar, S. and **Umesha, S.** 2014. 2, 6-Dichloroisonicotinic acid enhances the expression of defense genes in tomato seedlings against *Xanthomonas perforans*. **Physiological and Molecular Plant Pathology** 86:49-56.
47. Avinash, P. and **Umesha, S.** 2014. Identification and genetic diversity of bacterial wilt pathogen in brinjal. *Archives of Phytopathology and Plant Protection* 47(4):398-406.
48. Vanitha, S.C. and **Umesha, S.** 2014. PCR based specific detection of *Ralstonia solanacearum* in seed, soil and plant material. *International Journal of Pharma and Bio Sciences* 5 (1): 681-688 (B).
49. Chandan, S., **Umesha, S.**, Shiva Prasad, K., Revanasiddappa, H, D. and Balamurugan, V. 2014. Pseudo-peptides as novel antileptospiral agents: Synthesis and spectral characterization. **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy** 118:1152-57.

50. Roohie, R. K. and **Umesha, S.** 2013. DNA polymorphism analysis using SSCP and RAPD for *Xanthomonas campestris* pv. *campestris* genotyping. African Journal of Biotechnology 12 (50): 6913-6921.
51. Kavitharaj, V., Kumar, J.R., Mallesha, L., Archana, M., Mohan, K.N.S., Chethankumar, M. and **Umesha, S.** 2013. Virtual screening and biological evaluation of piperazine derivatives as human acetylcholinesterase inhibitors. International Journal of Alzheimer's Disease. 2013: 1- 13.
52. Chandan, S. and **Umesha, S.**, 2013. Rapid and sensitive method for detecting *Leptospira* by PCR-SSCP analysis. Journal of Pharmacy Research. 1(9): 912-17.
53. Shivalingaiah and **Umesha, S.** 2013. *Pseudomonas fluorescens* inhibits *Xanthomonas oryzae* pv. *oryzae*, the bacterial leaf blight pathogen in rice. Canadian Journal of Plant Protection 1 (5): 147-153.
54. Shivalingaiah, **Umesha, S.** and Sateesh, M.K. 2013. *Coculus hirsutus* extract inhibits *Xanthomonas oryzae* pv. *oryzae*, the bacterial leaf blight pathogen in rice. Archives of Phytopathology and Plant Protection 46 (15): 1885-1894.
55. **Umesha, S.** and Shiva Kumar, J. 2013. Bacterial quorum sensing and its applications in Biotechnology. A review Article. International Journal of Pharma and Bio Sciences 4(2): 850-862.
56. **Umesha, S.**, Shirin Marahel, and Mohammad Aberomand. 2013. Antioxidant and antidiabetic activities of medicinal plant: A short review. International Journal of Research in Phytochemistry and Pharmacology 3(1):40-53.
57. **Umesha, S.** and Chandrasekhar, B. 2013. Analysis of Plant-Pathogen Interactions by Proteomics. A Review Article. International Journal of Pharmacology and Biological Sciences 7(2):1-18.
58. Lakshmeesha, T.R., Sateesh, M.K., Vedashree, Sofi, M.S. and **Umesha, S.** 2013. Efficacy of botanicals on soybean seed-borne *Fusarium equiseti*. VCFL Sciences Journal 3(1):9-17.
59. Jayadevappa, H.P., Nagendrappa, G., **Umesha, S.** and Chandrashekar, S. 2012. Synthesis of Novel 2-(4-(2 morpholinoethoxy) phenyl)-N- phenylacetamide analogues and their antimicrobial study. Journal of Chemical Sciences 124(5):1019-1023.
60. Chandan, S., **Umesha, S.** and Balamurugan, V. 2012. Antileptospiral, antioxidant and DNA damaging properties of *Eclipta alba* and *Phyllanthus amarus*. Journal of Veterinary Science and Technology 4(4): 231-8.
61. Jayadevappa, H.P., Nagendrappa, G., **Umesha, S.** and Chandrashekar, S. 2012. Synthesis and antimicrobial study of N-[2-(2- piperidine 1 – yl-ethoxy) phenyl] acetamide analogues. Journal of Applied Pharmaceutical Science 2 (3): 192-196.
62. Roohie, R. K. and **Umesha, S.** 2012. Development of Multiplex PCR for the specific detection of *Xanthomonas campestris* pv. *campestris* in cabbage and correlation with diseases incidence. Journal of Plant Pathology and Microbiology 3(4):127-35.
63. Chandrashekar, S. and **Umesha, S.** 2012. Induction of antioxidant enzymes associated with bacterial spot pathogenesis in tomato. International Journal of Food, Agriculture and Veterinary Sciences 2(2):22-34.
64. Shivalingaiah, **Umesha, S.** and Sateesh, M.K. 2012. Detection of *Xanthomonas oryzae* pv. *oryzae* in rice seeds. The Asian and Australasian Journal of Plant Sciences and Biotechnology 6 (1): 44-47.

65. **Umesha, S.**, Chandan, S. and Nanjundaswamy, L. 2012. Colony PCR-Single Strand Conformation Polymorphism for the detection of *Ralstonia solanacearum* in tomato. International Journal of Integrative Biology 13(1): 45-51.
66. Chandrashekar, S., **Umesha, S.** and Chandan, S. 2012. Molecular Detection of Plant Pathogenic Bacteria using PCR-SSCP. Acta Biochemica et Biophysica Sinica 44(3): 217-223.
67. Govindappa, M., **Umesha, S.** and Lokesh, S. 2011. *Adathoda vesica* leaf extract induces resistance in rice against bacterial leaf blight disease (*Xanthomonas oryzae* pv. *oryzae*). International Journal of Plant Physiology and Biochemistry 3(1):6-14.
68. **Umesha, S.**, Chandrashekar, S. and Chandan S. 2011. Applications of Polymerase chain reaction-single strand conformational polymorphism to diagnose disease causing microorganisms. **Review article.** Biotechnology – An Indian Journal 5 (2): 100-107.
69. Shivalingaiah and **Umesha, S.** 2011. Characterization of *Xanthomonas oryzae* pv *oryzae* from major rice growing regions of Karnataka. The Bioscan 6(1):5-10.
70. **Umesha, S.**, and Kavitha, R. 2011. Induction of Cinnamyl Alcohol dehydrogenase in bacterial spot disease resistance of tomato. Journal of Bacteriology Research 3(2):16-27.
71. Vanitha, S.C. and **Umesha, S.** 2011. *Pseudomonas fluorescens* mediated systemic resistance in tomato is driven through an elevated synthesis of defense enzymes. Biologia Plantarum 55 (2):317-322.
72. Chandan, S. and **Umesha, S.** 2011. Development of PCR assay for targeting partial LipL21 and LipL41 gene of leptospira. Nepal Journal of Biotechnology 1:22-30.
73. Chandan, S., **Umesha, S.**, Haraprasad, N. and Chandrashekar, S. 2011. Variability of protein content and its role in kidney stone formation. Biotechnology – An Indian Journal 5 (1):56-59.
74. Chandrasekhar, S., **Umesha, S.**, Chethan Kumar, M. and Chandan, S. 2010. Inhibition of Pro-oxidant induced DNA Damage in isolated human peripheral lymphocytes by methanolic extract of *Guduchi* (*Tinospora cordifolia*) leaves. International Journal of Pharma Sciences and Research 1(10): 454-459.
75. **Umesha, S.** and Hariprasad, P. 2010. Plant health Improvement by *Bacillus subtilis* strain GBO3 in tomato against bacterial spot disease. Indian Phytopathology 63 (2) 127-130.
76. **Umesha, S.**, Chythra, R., Kavitha, R., Niranjana, S. R., Prakash, H.S. and Mortensen, C.N. 2010. Molecular Detection of *Xanthomonas citri* subsp. *malvacearum* in cotton seeds. Research Journal of Biotechnology 5 (1): 20-26.
77. Vanitha, S.C., Niranjana, S.R., Mortensen, C.N. and **Umesha, S.** 2009. Bacterial wilt of tomato in Karnataka and its Management by *Pseudomonas fluorescens*. BioControl 54:685-695.
78. Vanitha, S.C., Niranjana, S.R. and **Umesha, S.** 2009. Role of Phenylalanine Ammonia Lyase and Polyphenol Oxidase in host resistance to Bacterial wilt of tomato. Journal of Phytopathology 157: 552-557.
79. Choodamani, M.S., Hariprasad, P. Sateesh, M.K. and **Umesha, S.** 2009. Involvement of Catalase in Bacterial blight disease development of Rice incited by *Xanthomonas oryzae* pv. *oryzae*. International Journal of Pest Management 55(2): 121-127.
80. Vinaya, K., Kavitha, R., Ananda Kumar, C.S., Benaka Prasad, S.B., Chandrappa, S., Deepak, S.A., Nanjunda Swamy, S., **Umesha, S.** and Rangappa, K.S. 2009. Synthesis and Antimicrobial activity of 1-benzhydryl-sulphonyl-4-(3-(piperidin-4-yl) propyl) piperidine

derivatives against pathogens of *Lycopersicon esculentum*: A structure activity evaluation study. Archives of Pharmacal Research 32 (1): 33-41.

81. **Umesha, S.**, P. Hariprasad, S.A. Deepak, S. T. Girish and P. Syltie. 2009. Vitazyme Treatment improves seed quality of Paddy, Tomato and Cotton. Asian Journal of Microbiology, Biotechnology and Environmental Sciences 11(1):221-226.
82. **Umesha, S.**, Kong, P. and Hong, C.X. 2008. Bacterial Blight of Iris caused by *Pseudomonas syringae* in Virginia. Plant Pathology 57:1176.
83. Vanitha, S.C. and **Umesha, S.** 2008. Variations in defense-related enzyme activities in tomato during the infection with bacterial wilt pathogen. Journal of Plant Interactions 3 (4): 245-253.
84. Kong, P., Moorman, G., Lea-Cox, J., Ross, D., **Umesha, S.**, Richardson, P. and Hong, C. 2008. Zoospore responses to environmental pH of seven *Phytophthora* species commonly isolated from irrigation reservoirs at ornamental plant nurseries. Phytopathology 98: S84.
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107. **Umesh**, S., Shylaja, M.D. and Shetty, H.S. 2000. Lytic activity in pearl millet: Its role in downy mildew disease resistance. Plant Science 157: 33-41.
108. **Umesh**, S., Nagarathna, K.C., Shetty, S.A., and Shetty, H.S. 1999. Selection of downy mildew resistant somaclones, from a susceptible B line of pearl millet. Plant Cell, Tissue and Organ Culture 58: 159-162.
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4. Chandan, S., **Umesha, S.** and Balamurugan, V. 2013. Partial gene sequence of *16S rRNA* gene of *Leptospira*. NCBI Gene bank Accession No. KF591093, KF591094, KF591095, KF591096, KF591097, KF591098, KF591099, KF591100, KF591101.
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9. Avinash, P. and **Umesha, S.** 2013. *Ralstonia solanacearum* 16S rRNA partial sequence. Deposited to NCBI gene bank Accession No. KF 017596, KF021616, KF021617.
10. Shivalingaiah, C. and **Umesha, S.** 2012. *Xanthomonas oryzae* pv. *oryzae* strain DOSB5 hypothetical protein partial sequence. Deposited to NCBI gene bank Accession No. KC200267.
11. Chandan, S., **Umesha, S.** and Balamurugan, V. 2012. Partial gene sequence of *rpoB* gene of *Leptospira*. NCBI Gene bank Accession No. KC282884, KC282885, KC282886, KC282887, KC282888, KC247146, KC247147, KC247148, KC247149, KC24750, KC147204, KC192545, KC192546, KC192547, KC292639, KC292640, KC292641, KC292642, KC292643, KC292644.
12. Avinash, P. and **Umesha, S.** 2012. *Ralstonia solanacearum lpxC* upstream region genomic sequence. Deposited to NCBI gene bank Accession No. JX628912.
13. Avinash, P. and **Umesha, S.** 2012. *Xanthomonas axonopodis* pv. *vesicatoria* *hrpb* region genomic sequence. Deposited to NCBI gene bank Accession No. JX628913.
14. Vanitha, S.C. and **Umesha, S.** 2009. *Ralstonia solanacearum lpxC* upstream region genomic sequence. Deposited to NCBI gene bank Accession No. GQ379236

Papers published in edited proceedings

1. **Umesha, S., P. A. Richardson, P. Kong, C.X. Hong.** 2007. Characterization of Phytopathogenic bacteria from Irrigation reservoirs at two commercial nurseries in eastern Virginia. In: Proceedings of VA/WV water research symposium held during Nov 26-30, 2007, at Virginia Tech, Blacksburg, **Virginia, USA.**
2. **Umesha, S.** 2005. Biocontrol of Bacterial Canker of disease of Tomato using *Pseudomonas fluorescens*. In the proceedings of “1st International Symposium of Biological Control of Bacterial Plant Diseases” held during October 23-26, 2005 at “Technical University of Darmstadt and Federal Biological Research Center for Agriculture and Forestry (BBA), Institute for Biological Control, Heinrichstr. 243, 64287, **Darmstadt, Germany**”.
3. **Umesha, S., P. Hariprasad, S.A. Deepak, S. T. Girish and P. Syltie.** 2006. Cotton – a seed germination and seedling study. Vitazyme 2006 Field Trial Results Booklet: **Vital Earth Resources, Inc., Gladewater, TX-75647, USA,** p19-20.
4. **Umesha, S., P. Hariprasad, S.A. Deepak, S. T. Girish and P. Syltie.** 2006. Rice – a seed germination and seedling study. Vitazyme 2006 Field Trial Results Booklet: **Vital Earth Resources, Inc., Gladewater, TX-75647, USA,** p30-31.
5. **Umesha, S., P. Hariprasad, S.A. Deepak, S. T. Girish and P. Syltie.** 2006. Tomatoes – a seed germination and seedling study. Vitazyme 2006 Field Trial Results Booklet: **Vital Earth Resources, Inc., Gladewater, TX-75647, USA,** pp40.

Extension activities; popular articles published in periodicals

1. **Umesha, S. and Shetty, H.S.** 1997. *Sasyarogagala Jaivika Niyanthrana - Raitharigonda Varadhana* (in Kannada), **Prajavani - Krishiranga,** Jan 1, 1997.
2. Shetty, H.S., Shylaja, M.D. and **Umesha, S.** 1998. Effective management of disease in Bajra. **The Hindu,** Dec 8, 1997.
3. Shetty, H.S., Shylaja, M.D. and **Umesha, S.** 1998. Pearl millet and mildew disease, **Indian Express - Science Express,** June 23, 1998.
4. **Umesha, S. and Shetty, H.S.** 1998. *Sasyarogasamrakshaneyelli Aanvayika Vijnanada Koduge* (in Kannada), **Vignana Karnataka** 19 (3-4): 41-47.
5. **Umesha, S. and Shetty, H.S.** 2000. *Beejothpadaneyalli Swavalambhane* (in Kannada), **Vijaya Karnataka - Krishi Vijaya,** 27, March 2000.

A no. of Lectures were delivered to farmers in the area of plant disease management and Seed health testing methods.

v) Monographs/Reports (if any): NIL

14. Conference/Seminar organized:

Sl. No.	Status as organizer	Title of the conference/seminar	Date
1.	Organizing Committee member	1999 – National Symposium on Seed Science and Technology	August 5-7, 1999
2.	Organizing Committee	2001-National Seminar on Seed Science and	August

	member	Technology in the New Millennium	5-7, 2001
3.	Organizing Committee member	2004 – National Seminar On Emerging Trends In Applied Botany, Seed Science And Technology	November 4-6, 2004
4.	Organizing Committee member	International Conference on Seed Health in Agricultural Development	June 9-12,2008
5.	Organizing Committee member	30 th Annual Conference and Symposium on Advances in Biotechnology for Plant protection	November 17-19,2008
6.	Organizing Committee member	Dr. Norman E. Borlaug Commemoration National Conference on Plant Diversity and Plant Health	March 11-12, 2010
7.	Organizing Secretary	NABS National Seminar on Biological products for Crop, Animal and Human Health – Problems and Prospects,	21-22 August 2015
8.	Course Co-ordinator	Organized Refresher Course in Life Science for Assistant Professors of Universities/Colleges with the Theme – Newer Perspectives in Life Sciences, at the UGC – HRDC, University of Mysore, Mysore	Jan 22 to Feb 11, 2016
9.	Organizing Secretary	International Conference on Nanomaterials and their applications	1-2 March 2018
10.	Organizing Secretary	Short-term Training in Molecular Diagnostics for Seed-borne bacterial pathogens for the M/s Syngenta India Pvt. Ltd. Hyderabad.	7-9 September 2016
11.	Organizing Secretary	Short-term Training in Plant Cell and Tissue culture (10 Candidates).	Dec15, 2016 to Jan 14, 2017
12.	Organizing Secretary	Short-term Training in Plant Cell and Tissue culture (10 Candidates).	Jan15 to Feb 14, 2018

15. Conference/Seminar chaired/Co-chaired:

Sl. No.	Title of the seminar	Organized by	Date
1.	National Seminar on Recent Advances in Fungal Diversity, Plant Microbe Interaction and Disease management	CAS in Botany, Institute of Science, Banaras Hindu University, Varanasi.	28-29 February 2020
2.	IPS 7 th International Conference on Phytopathology in Achieving UN Sustainable Development Goals.	IARI, Pusa Campus, New Delhi,	Jan 16-20, 2020
3.	Role of Biotechnology in the Human Welfare. Invited Talk delivered in the KSTA National Conference on	Jointly organized by KSTA, DST, GoK and VSKU, Ballary.	8-9 March 2017.

	Impact of Science and Technology on Society and Economy,		
4.	Environmental Imbalance due to Human Greediness. Invited Talk delivered in National Seminar on Environmental Imbalance: Reasons and Challenges.	Loyala First Grade College, Manvi, Raichur.	7 Jan 2017.
5.	Proteomic Analysis of Capsicum annum to N-AHL, a bacterial quorum sensing molecule. Invited talk delivered in ISMPP 38 th Annual Conference and National Symposium on Challenges towards Plants Health under Changing Climatic Scenario for Sustainable Agriculture,	Jointly organized by BCKV, Mohanpur, Nadia, WB and ISMPP, Udaipur.	24-26 Nov 2016.
6.	Role of EPS in Plant defense against bacterial wilt disease. Invited talk delivered in ISMPP 37 th Annual Conference and National Symposium on Food Security through Plant Health Protection.	Jointly organized by RAU, Pusa, Samasthipur, Bihar and ISMPP, Udaipur.	4-6 April 2016.
7.	Role of Biotechnology in the Environmental Protection; Key note address in the UGC sponsored one day National Seminar Role of Biotechnology in the Environmental Protection.	Kalpatharu First Grade College, Tiptur.	March 30, 2016.
8.	Host-Pathogen Interactions in Phytobacterial system. Invited Talk in the National Symposium on Conventional and biotechnological Perspectives of Understanding the behavior of living organisms.	Karnatak University, Dharwad	November 15-16, 2013.
9.	National Conference on Advances in Plant Pathology	CAS in Botany, Madras University, Chennai, India	27-28 Mar 2013
10.	National Conference on Environmental Sciences and Health Hazards	Department of Biotechnology Karnataka University Dharwad, India	19-21 Nov 2012
11.	Impact of Pollution on Biodiversity; Role of Biological Sciences	Veerashaiva College, Sri Krishnadevaraya University, Bellary, Karnataka, India.	17-18 Feb 2012
12.	5th International Bacterial Wilt	Oils Crops Research Institute	20-24 Jun

	Symposium	of Chinese Academy Agricultural Sciences, Wuhan, China	2011
13.	ISMPP Annual Conference	University of Agricultural Sciences, Dharwad	8-9 Oct 2009
14.	First International Biotechnology Conference	Sikkim Manipal Institute of Technology, Majitar, Gangtok	28-30 Dec 2008
15.	30th Annual conference and Symposium on Advances in Biotechnology for plant protection	Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.	17-19 Nov 2008

16. Conference/Seminar participated:

1. **Umesha, S.** 2020. **Biodiversity: Its Time for Nature: World Environment Day** Webinar Delivered on 5th June 2020, Organized by ISHRAE and Institution of Engineers, Mysore.
2. **Umesha, S.** 2020. Advanced Molecular Diagnostics for Microbial detection. **Invited/Lead talk** delivered **National Seminar on Recent Advances in Fungal Diversity, Plant Microbe Interaction and Disease management** organized by CAS in Botany, Institute of Science, Banaras Hindu University, Varanasi, during 28-29 February 2020.
3. **Umesha, S.** 2020. Advanced Molecular Diagnostics for bacterial detection. **Key Note Lecture delivered in IPS 7th International Conference** on Phytopathology in Achieving UN Sustainable Development Goals Organized by IARI, Pusa Campus, New Delhi, during Jan 16-20, 2020.
4. **Umesha, S.** 2019. Advanced Molecular Diagnostics for bacterial detection. **Prof. VP Bhide Memorial Award Lecture** delivered in ISMPP 40th Annual Conference and National Symposium on Microbial based strategies for improvement of soil and Plant health organized jointly by ISMPP and Karnatak University, Dharwad on 24-26 Sept 2019.
5. **Umesha, S.** 2018. Advanced Molecular Diagnostics for the detection of bacterial pathogens. **Invited/Lead talk** delivered in National Seminar on Current Scenario on Research and Developments in Plant Sciences, organized by CAS in Botany, University of Madras, Chennai, on 29 March 2018.
6. **Umesha, S.** 2017. Proteomic studies in Chilli during infection with *Ralstonia solanacearum*. **Invited/Lead talk** delivered in National Symposium on Emerging trends in Plant health management in relation to climate change, jointly organized by Indian

- Phytopathological Society, New Delhi and UHS, Bagalkot, during 12-13 September 2017.
7. **Umesha, S.** 2017. Role of Biotechnology in the Human Welfare. **Invited Talk** delivered in the **KSTA National Conference** on Impact of Science and Technology on Society and Economy, jointly organized by KSTA, DST, GoK and VSKU, Ballary, during 8-9 March 2017.
 8. Fathil, M., Anitha, S.V., Manukumar, H.M and **Umesha, S.** 2017. Development of Ecofriendly biocidal T-C@AgNPs against infective agents. Paper adjudged as **FIRST BEST paper** (awarded CASH Prize) in Biotechcellence 2017, organized by Centre for Biotechnology, Anna University, Chennai-25, during 9-11 March 2017.
 9. **Umesha, S.** 2017. Environmental Imbalance due to Human Greediness. Invited Talk delivered in National Seminar on **Environmental Imbalance: Reasons and Challenges**, organized by Loyala First Grade College, Manvi, Raichur, during 7 Jan 2017.
 10. **Umesha, S.** 2016. Proteomic Analysis of Capsicum annuum to N-AHL, a bacterial quorum sensing molecule. **Invited talk** delivered in ISMPP 38th Annual Conference and National Symposium on Challenges towards Plants Health under Changing Climatic Scenario for Sustainable Agriculture, jointly organized by BCKV, Mohanpur, Nadia, WB and ISMPP, Udaipur, held on 24-26 Nov 2016.
 11. Umesha, S. 2016. Participated in STEM-Fest, held during 17-20 October 2016, at the University of Mysore, Mysore 570 006.
 12. **Umesha, S.** 2016. Role of EPS in Plant defense against bacterial wilt disease. **Invited talk** delivered in ISMPP 37th Annual Conference and National Symposium on Food Security through Plant Health Protection, jointly organized by RAU, Pusa, Samasthipur, Bihar and ISMPP, Udaipur, held on 4-6 April 2016.
 13. **Umesha, S.** 2016. Role of Biotechnology in the Environmental Protection; Key note address in the UGC sponsored one day National Seminar Role of Biotechnology in the Environmental Protection, organized by Kalpatharu First Grade College, Tiptur, during march 30, 2016.
 14. Bhadvelu Chandrasekhar and **S. Umesha.** “Differential proteomic analysis of biotic stress responsive proteins in bacterial wilt resistant and susceptible chilli cultivars” **Awarded best paper** presentation by Department of Botany, Goa University, Goa during National Seminar on New frontiers in plant sciences and Biotechnology held on 29-30 January 2015.
 15. Shivakumar, J. and **S. Umesha.** “Identification of quorum sensing molecule in Ralstonia solanacearum using biosensor strains” **Awarded best poster** by Department of Botany, Goa University, Goa during National Seminar on New frontiers in plant sciences and Biotechnology held on 29-30 January 2015.
 16. **Umesha, S.** 2013. Host-Pathogen Interactions in Phyto-bacterial system. **Invited Talk** in the National Symposium on Conventional and biotechnological Perspectives of Understanding the behavior of living organisms, held at Dharwad, India, during 15-16 November 2013.

17. **Umesha, S.** 2013. Anti-leptospiral, anti-oxidant and spectral characterization of *Phyllanthus amarus*. Paper presented in National conference on Medicinal plants held at Department of Botany, Sikkim University, Sikkim, India, during 3-5 October, 2013.
18. Kaunain Roshie, R. and **Umesha, S.** 2013 A bioinformatics approach to study the plant defense genes involved in response to biotic stress caused by black rot pathogen. Paper presented in First international and third national conference Biotechnology, Bioinformatics and Bioengineering held at Tirupati, India, during 28-29 June 2013
19. **Umesha, S.** 2013 Development of Nucleic Acid based detection techniques for Phytopathogenic Bacteria. **Invited lecture** in National Conference on Advances in Plant Pathology held at CAS in Botany, Madras University, Chennai, India, during 27-28 March 2013.
20. **Umesha, S.** 2012 Development of Molecular Diagnostic Techniques for Specific Detection of Phytopathogenic Bacteria. **Invited lecture** in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21 November 2012.
21. Chandrasekhar, B. and **Umesha, S.** 2012 2-Dimensional electrophoretic profiles of chilli plant in response to *Ralstonia solanacearum* Paper presented in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21 November 2012.
22. Avinash, P and **Umesha, S.** 2012 Specific and Sensitive Detection of *Ralstonia solanacearum* in Brinjal using Polymerase Chain Reaction Paper presented in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21st November 2012.
23. Chandan, S. and **Umesha, S.** 2012 Molecular characterization and typing of recent Leptospiral isolates from Karnataka Paper presented in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21st November 2012.
24. Kaunain Roshie, R and **Umesha, S.** 2012 *Hrp* - A Genomics approach for detection of phytopathogenic bacteria. Paper presented in National Conference on Environmental Sciences and Health Hazards held at Dharwad, India, during 19-21st November 2012.
25. Avinash, P. and **Umesha, S.** 2012 Development of multiplex PCR for specific detection of *Ralstonia solanacearum* and *Xanthomonas oryzae* pv. *oryzae* Paper awarded **Best poster award** in National Conference on Biotechnology and society, held at Kuvempu University, Shankaraghatta, India, during 19th and 20th April 2012.
26. Chandrasekhar, B. and **Umesha, S.** 2012 Differential proteomic analysis of bacterial wilt susceptible and resistant chilli cultivars Paper presented in National Conference on Biotechnology and society, held at Kuvempu University, Shankaraghatta, India, during 19th and 20th April 2012.
27. Chandan, S. and **Umesha, S.** 2012 Effect of *Eclipta alba* and *Phyllanthus amarus* extract on Leptospirosis Paper presented in National Conference on Biotechnology and society, held at Kuvempu University, Shankaraghatta, India, during 19th and 20th April 2012.
28. Chandrasekhar, S. and **Umesha, S.** 2012 Sensitive and specific detection of *Xanthomonas axonopodis* pv. *vesicatoria* by direct colony PCR Paper presented in National Conference on Biotechnology and society, held at Kuvempu University, Shankaraghatta, India, during 19th and 20th April 2012.

29. Chandrasekhar, S. and **Umesha, S.** 2012 Induction of anti-oxidant enzyme associated with bacterial spot pathogenesis in tomato Paper awarded **Best poster award** in Eleventh all India conference on cytology and genetics, held at Bangalore, India, during 23 -25 January 2012.
30. Chandan, S. and **Umesha, S.** 2012 Development of PCR assay for targeting partial lipL21 and lipL41 gene of *Leptospira* Paper presented in Eleventh all India conference on cytology and genetics, held at Bangalore, India, during 23 -25 January 2012.
31. Kaunain Roohie, R. and **Umesha, S.** 2012 Expression of Lipoxygenase enzyme in response to *Xanthomonas campestris* pv. *campestris* in *Brassica oleracea* var *capitata*. Paper presented in Indian Science congress association held at Bhuvaneshwar, India, during 3-7 January 2012 .
32. **Umesha, S.** 2012. Role of Biotechnology in the Conservation of Biodiversity. Invited paper presented in UGC sponsored national Seminar on **Impact of Pollution on Biodiversity: Role of Biological Sciences**, organized by Veerashaiva College, Bellary, during 17-18 Feb 2012.
33. **Umesha, S.** 2011. Sensitive and specific detection of *Ralstonia solanacearum* by direct colony PCR-SSCP. Paper presented in 5th International Bacterial Wilt Symposium, held at Oils Crops Research Institute of Chinese Academy Agricultural Sciences, **Wuhan, China**, during 20-24 June 2011.
34. Chandan, S. and **Umesha, S.** 2011 Sensitive and specific detection of *Xanthomonas axonopodis* pv. *Vesicatoria* by direct colony Polymerase chain reaction (PCR). Paper presented in World congress on Biotechnology (OMICS group) held at Hyderabad international Convention Centre (HICC), Hyderabad, India, during 21-23 March 2011.
35. Chandrashekhar, S and **Umesha, S.** 2011 Development of PCR-SSCP technique to detect bacterial wilt pathogen of vegetables. Paper presented in World congress on Biotechnology (OMICS group) held at Hyderabad international Convention Centre (HICC), Hyderabad, India, during 21-23 March 2011.
36. Kaunain Roohie, R and **Umesha, S.** 2011 Identification of resistance gene analogs in cabbage by PCR-SSCP analysis. Paper presented in World congress on Biotechnology (OMICS group) held at Hyderabad international Convention Centre (HICC), Hyderabad, India, during 21-23 March 2011.
37. **Umesha, S.** 2010. Attended Symposium on “Microbial Energy” held during 15th September 2010 at Department of Studies in Microbiology and Sir M. Visvesvaraya Chair, University of Mysore, Mysore, Karnataka, India.
38. **Umesha, S.** 2009. Attended XXXII All India Botanical Conference and International Symposium on, “Diversity of Plant and Microbes: Present Scenario” held during 28-30 Dec, 2009 at Kuvempu University, Shimoga, Karnataka, INDIA.
39. Kavitha, R. and **Umesha, S.** 2009. Association of plant defense enzyme activities with systemic resistance to bacterial spot of tomato by Acibenzolar S-Methyl. Paper presented in ISMPP annual conference held during 8-9 Oct 2009 at UAS, Dharwad, India.
40. Vanitha, S.C. and **Umesha, S.** 2009. Differential Expression of defense-related genes in tomato seedlings treated with *Pseudomonas fluorescens* in resistance to bacterial wilt.

Paper presented in ISMPP annual conference held during 8-9 Oct 2009 at UAS, Dharwad, India (**Awarded as 1st Best Research Paper**).

41. **Umesha, S.** 2009. Attended 96th Session of Indian Science Congress, elected as Zonal President for Plant Sciences group for south zone of ISCA, held during January 3-7, 2009 at North-Eastern Hill University, Shillong, Meghalaya, India.
42. **Umesha, S.**, Chythra, R. and Niranjana, S.R. 2008. Molecular Detection of *Xanthomonas axonopodis* pv. *malvacearum* in cotton seeds. Paper presented in First International Biotechnology Conference, held during 28-30 December 2008, at Sikkim Manipal Institute of Technology, Majitar, Gangtok, Sikkim, India.
43. Kavitha, R., Niranjana, S.R. and **Umesha, S.** 2008. Gene expression and accumulation of transcripts of lipoxygenase in tomato upon *Xanthomonas axonopodis* pv. *vesicatoria* infection. Paper awarded for Smt. Guman Devi Verma memorial award for best women scientists' in 30th Annual conference and Symposium on Advances in Biotechnology for plant protection, held during 17-19 Nov 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
44. Vanitha, S.C., Niranjana, S.R. and **Umesha, S.** 2008. Induction of polyphenoloxidase and β -1,3-glucanase in tomato seedlings in response to *Ralstonia solanacearum* infection. Paper presented for Smt. Guman Devi Verma memorial award for best women scientists' in 30th Annual conference and Symposium on Advances in Biotechnology for plant protection, held during 17-19 Nov 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
45. **Umesha, S.** 2008. Involvement of peroxidase in the defense mechanism of bacterial spot and bacterial wilt diseases in tomato. Paper presented in 30th Annual conference and Symposium on Advances in Biotechnology for plant protection, held during 17-19 Nov 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
46. **Umesha, S.** and Hong, C.X. 2008. Molecular analysis of 16S rRNA gene to differentiate *Xanthomonas* species. Paper presented in 2nd Symposium on Seed Health in Agricultural Development, held during 9-13 June 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
47. Kavitha, R. and Umesha, S. 2008. Increased Accumulation of Lipoxygenase Transcripts in Tomato upon *Xanthomonas axonopodis* pv. *vesicatoria* infection. Paper accepted for presentation in 2nd Symposium on Seed Health in Agricultural Development, will be held during 9-13 June 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
48. Vanitha, S.C., **Umesha, S.** and Niranjana, S.R. 2008. Role of β -1, 3- glucanase and Polyphenol Oxidase in host resistance to Bacterial wilt of tomato. Paper presented in 2nd Symposium on Seed Health in Agricultural Development, will be held during 9-13 June 2008 at Department of Applied Botany and Biotechnology, University of Mysore, Mysore, India.
49. Kong, P., Moorman, G.W., Lea-Cox, J.D., Ross, D.S., **Umesha, S.**, Richardson, P.A. and Hong, C.X. 2008. Zoospore responses to environmental pH of seven *Phytophthora* species

commonly isolated from irrigation reservoirs at ornamental plant nurseries. Paper presented in APS annual meeting...

50. Vanitha, S.C. and **Umesha, S.** 2008. Incidence of Bacterial wilt of Tomato in Karnataka and Biological Control of Bacterial wilt by *Pseudomonas fluorescens*. Paper presented in National Symposium on “Diversity and Functionality of Plant and Microbes” held during January 24 to 25, 2008, at Department of Botany (UGC-SAP), University of North Bengal, Siliguri 734 013, West Bengal, India.
51. Kavitha, R. and **Umesha, S.** 2008. Virulence of Catalase Enzyme in *Xanthomonas vesicatoria* and Bacterial Spot Pathogenesis of Tomato. Paper presented in National Symposium on “Diversity and Functionality of Plant and Microbes” held during January 24 to 25, 2008, at Department of Botany (UGC-SAP), University of North Bengal, Siliguri 734 013, West Bengal, India.
52. **Umesha, S.** 2007. Attended NCBI workshop on NCBI 4 Pack: Web based analysis on; structural analysis Quickstart, BLAST Quickstart, Identification of Disease genes, Correlation of Disease genes to Phenotypes, held during November 14-15, 2007 at NCBI, Washington DC, USA
53. **Umesha, S.**, Kong, P. and Hong, C.X., 2007. Characterization of Phytopathogenic bacteria from irrigation reservoirs at two commercial nurseries in Eastern Virginia. Paper presented in VA/WV water research Symposium held during Nov 26-30, 2007, at the Inn at Virginia Tech and Skelton Conference Center, Virginia Tech, Blacksburg, Virginia, USA.
54. Vanitha. Vanitha, S.C. and **Umesha, S.** 2007. Involvement of Defense Related enzymes in Bacterial Wilt Pathogenesis of Tomato by *Ralstonia solanacearum*. Paper presented in National Seminar on “Molecular Plant Pathology and Biotechnology for Sustainable crop Production” held during November 28 to 29, 2007, at Department of Applied Botany and Biotechnology, University of Mysore, Manasagangotri, Mysore-570 006, India.
55. Kavitha, R. and **Umesha, S.** 2007. Induction of Lipoxigenase Enzyme in Bacterial Spot of Tomato incited by *Xanthomonas vesicatoria*. Paper presented in National Seminar on “Molecular Plant Pathology and Biotechnology for Sustainable crop Production” held during November 28 to 29, 2007, at Department of Applied Botany and Biotechnology, University of Mysore, Manasagangotri, Mysore-570 006, India.
56. Vanitha, S.C. and **Umesha, S.** 2006. Involvement of Peroxidase enzyme in Bacterial Wilt Pathogenesis of Tomato by *Ralstonia solanacearum*. Paper presented in National Symposium on “Biodiversity and Biotechnology: Research and Development Needs in Edible Mushrooms and Crop Disease Management” and 28th Annual Meet of Indian Society of Mycology and Plant Pathology, held during November 9 to 11, 2006, at Department of Plant Pathology, College of Agriculture, G. B. Pant. Univ. of Agriculture and Technology, Pantnagar-263 145 (Uttaranchal) India.
57. Kavitha, R. and **Umesha, S.** 2006. Induction of Peroxidase and Polyphenol oxidase enzymes in Bacterial Spot Pathogenesis of Tomato. Paper presented in National Symposium on “Biodiversity and Biotechnology: Research and Development Needs in Edible Mushrooms and Crop Disease Management” and 28th Annual Meet of Indian Society of Mycology and Plant Pathology, held during November 9 to 11, 2006, at

Department of Plant Pathology, College of Agriculture, G. B. Pant. Univ. of Agriculture and Technology, Pantnagar-263 145 (Uttaranchal), India.

58. Choodamani, M.S., Hariprasad, P., **Umesha, S.** and Prakash, H.S. 2006. Role of Antioxidant Enzymes in Determining the Virulence of *Xanthomoas oryzae* pv. *oryzae*. Paper presented in National Symposium on “Biodiversity and Biotechnology: Research and Development Needs in Edible Mushrooms and Crop Disease Management” and 28th Annual Meet of Indian Society of Mycology and Plant Pathology, held during November 9 to 11, 2006, at Department of Plant Pathology, College of Agriculture, G. B. Pant. Univ. of Agriculture and Technology, Pantnagar-263 145 (Uttaranchal), India.
59. Kumar, H.R.L., **Umesha, S.** and Hariprasad, P. 2006. Induction of Polyphenol oxidase in Tomato seedlings by *Xanthomonas vesicatoria*. Paper presented in “National Symposium on Biotechnological Methods for Crop Disease Management”, held during 3-4, March’ 2006, at Department of Plant Pathology, Annamalai University, Annamalai Nagar – 608 002, Tamil Nadu, India.
60. Shobha, G., **Umesha, S.** and Hariprasad, P. 2006. Involvement of Peroxidase enzyme in bacterial spot pathogenesis of Tomato. Paper presented in “National Symposium on Biotechnological Methods for Crop Disease Management”, held during 3-4, March’ 2006, at Department of Plant Pathology, Annamalai University, Annamalai Nagar – 608 002, Tamil Nadu, India.
61. Vanitha, S.C. and **Umesha, S.** 2006. Induction of Phenylalanine Ammonia Lyase in Chilli seedlings by *Ralstonia solanacearum*. Paper presented in “National Symposium on Emerging Plant Diseases, their diagnosis and management” held during January 31 to February 2, 2006, at Department of Botany (UGC-SAP), University of North Bengal, Siliguri 734 013, West Bengal, India.
62. Kavitha, R. and **Umesha, S.** 2006. Upregulation of Phenylalanine Ammonia Lyase and Cinnamyl Alcohol Dehydrogenase activity in Bacterial Spot resistance of tomato. Paper presented in “National Symposium on Emerging Plant Diseases, their diagnosis and management” held during January 31 to February 2, 2006, at Department of Botany (UGC-SAP), University of North Bengal, Siliguri 734 013, West Bengal, India.
63. **Umesha, S.** and Hariprasad, P. 2006. Plant Growth Promoting Rhizobacteria enhances Seed Quality and reduces Bacterial Spot disease of Tomato. Paper presented in “XII National Seed Seminar on Prosperity through Quality Seed” held during February 24-26, 2006, at Acharya NG Ranga Agricultural University, Hyderabad 500 030, India.
64. **Umesha, S.** and Kavitha, R. 2005. Involvement of Phenylalanine Ammonia Lyase enzyme in Bacterial Spot pathogenesis of Tomato. Paper presented in Asian Conference on “Emerging Trends in Plant-Microbe Interactions” held during December 8-10, 2005, at CAS in Botany, University of Madras, Chennai, India.
65. Hariprasad, P. and **Umesha, S.** 2005. PGPR induces bacterial Spot Disease Resistance in Tomato. Paper presented in Global (**International**) conference II Plant Health – Global Wealth, held during November, 25-29, 2005, at Rajasthan College of Agriculture, RAU, Udaipur-313 001, India,
66. Santhosh, A.N., Girish, N. and **Umesha, S.** 2005. Effect of Acid Delinting on Bacterial Blight Incidence of Cotton Seeds. Paper presented (for **PP Verma** Award) in Global

- (**International**) conference II Plant Health – Global Wealth, held during November, 25-29, 2005, at Rajasthan College of Agriculture, RAU, Udaipur-313 001, India,
67. Kavitha, R. and **Umesha, S.** 2005. Involvement of Cinnamyl Alcohol Dehydrogenase Enzyme in Bacterial Spot Pathogenesis of Tomato. Paper presented in Global (**International**) conference II Plant Health – Global Wealth, held during November, 25-29, 2005, at Rajasthan College of Agriculture, RAU, Udaipur-313 001, India,
 68. **Umesha, S.** 2005. Biocontrol of Bacterial Canker of disease of Tomato using *Pseudomonas fluorescens*. Paper to be presented in, “1st International Symposium of Biological Control of Bacterial Plant Diseases” held during October 23-26, 2005 at “Technical University of Darmstadt and Federal Biological Research Center for Agriculture and Forestry (BBA), Institute for Biological Control, Heinrichstr. 243, 64287, **Darmstadt, Germany**”.
 65. **Umesha, S.**, Girish, N. and Kavitha, R. 2005. Seed Treatment with Biotic and Abiotic agents for the Management of Bacterial Canker in Tomato. Paper presented in, “Centenary Symposium on Plant Pathology” held during, April 7-8, 2005 at Central Potato Research Station, Shimla-171 001, H.P., India.
 66. **Umesha, S.** 2004. Involvement of Phenylalanine Ammonia Lyase in bacterial canker Pathogenesis in Tomato. Paper presented in “2004-National Seminar on Emerging Trends in Applied Botany, Seed Science and Technology” held during November 4-6, 2004 at Department of Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.
 67. **Umesha, S.** and Shetty, H.S. 2004. Recent Trends in Detecting Seed-borne Bacteria. Paper presented in “2004-National Seminar on Emerging Trends in Applied Botany, Seed Science and Technology” held during November 4-6, 2004 at Department of Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.
 68. Girish, N., Kavitha, R., **Umesha, S.** and Shetty, H.S. 2004. β -amino butyric acid and Salicylic acid induces the bacterial canker disease resistance in Tomato. Paper presented in “2004-National Seminar on Emerging Trends in Applied Botany, Seed Science and Technology” held during November 4-6, 2004 at Department of Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.
 69. Kavitha, R., Girish, N., **Umesha, S.** and Shetty, H.S. 2004. Effect of Plant Growth promoting Rhizobacteria on the bacterial canker disease in Tomato. Paper presented in “2004-National Seminar on Emerging Trends in Applied Botany, Seed Science and Technology” held during November 4-6, 2004 at Department of Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.
 70. Nalini, T.J., **Umesha, S.** and Shetty, H.S. 2004. Effect of Plant Growth promoting Rhizobacteria on bacterial leaf blight of Rice. Paper presented in “2004-National Seminar on Emerging Trends in Applied Botany, Seed Science and Technology” held during November 4-6, 2004 at Department of Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.
 71. **Umesha, S.** and H. Shekar Shetty. 2001. Biocontrol of Bacterial leaf blight disease of rice by using bacterial bioagents, Paper presented In: "2001-National Seminar on Seed Science

and Technology, Vistas and Vision” held during 6-8 August 2001, at Department of Studies in Applied Botany, Seed Pathology and Biotechnology, University of Mysore, Mysore, India.

72. Govindappa, M., **Umesha, S.** and Shekar Shetty, H. 2001. Effect of bacterial biocontrol agents and plant extracts on the bacterial leaf blight disease of rice – paper presented in, “National Seminar on Recent trends in plant diseases and management” held during 16-17 March, 2001 at the Department of Applied Botany, Kuvempu University, Jnana Sahyadri 577 451 Shimoga, Karnataka.
73. **Umesha, S.** and Shekar Shetty, H. 2001. Comparative efficiency of *Trichoderma harzianum*, *Chaetomium globosum* and *Pseudomonas fluorescens* on the management of pearl millet downy mildew disease – paper presented in, “National Seminar on Recent trends in plant diseases and management” held during 16-17 March, 2001 at the Department of Applied Botany, Kuvempu University, Jnana Sahyadri 577 451 Shimoga, Karnataka.
74. **Umesha, S.** and Shekar Shetty, H. 2000. Fungal antagonists to manage downy mildew disease of pearl millet and bacterial antagonist to manage bacterial leaf blight of rice – paper presented in, “first Regional Workshop on Plant Growth Promoting Rhizobacteria (PGPR)” held during 28th to 29th March 2000 at the Department of Applied Botany and Biotechnology, UOM, Manasagangotri, Mysore.
75. **Umesha, S.** 1999. Effect of biological seed treatment on downy mildew disease of pearl millet – **Prize (II)** is awarded for the work as well as the presentation in the competition, in, “1999 – National symposium on seed science and technology” held during 5-7 Aug, 1999 at the Department of Applied Botany and Biotechnology, UOM, Manasagangotri, Mysore.
76. **Umesha, S.** 1997. Biocontrol of pearl millet downy mildew - Paper presented in the Twentieth All India Botanical Conference held during Dec 29-31, 1997 at the Department of Applied Botany and Biotechnology, UOM, Manasagangotri, Mysore.
77. **Umesha, S.**, Shylaja, M.D. and Shetty, H.S. 1997. Effect of biopesticide formulations of *Pseudomonas fluorescens* in controlling downy mildew of pearl millet. **Prize (II)** is awarded for the work as well as the presentation in the competition held by the Association of Microbiologists of India, CFTRI, Mysore.
78. **Umesha, S.**, Shylaja M.D., Shetty, S.A., Krishnappa, M. and Shetty, H.S. 1996. *Pseudomonas fluorescens* - an effective system for the management of downy mildew disease of pearl millet. Paper presented in the National Seminar on Integrated Crop disease management for sustainable agriculture held at Dept. of Botany, Dr.B.A. Marathwada University, Aurangabad - 431 004, Maharashtra, India, during Feb. 26-27, 1996.
79. **Umesha, S.**, Shylaja M.D. and Shetty, H.S. 1995. Evidence for the involvement of lytic enzymes in Downy mildew disease resistance in pearl millet. Paper presented in 64th Annual meeting of Society of Biological Chemists (SBC), India, held at Lucknow-226 001, UP, India, during Oct 6-8, 1995.

80. **Umesha, S.**, Shylaja M.D. and Shetty, H.S. 1995. Role of lytic enzymes in Downy mildew disease resistance. **Consolation prize** is awarded for the work as well as presentation in the competition held by the Society of Biological Chemists (India), CFTRI, Mysore.
81. Shylaja, M.D., **Umesha, S.**, and Shetty, H.S. 1995. Molecular recognition of the host-pathogen system in Downy mildew disease. Paper presented in the National Seminar on Seed Pathology held at Department of Studies in Applied Botany, UOM, Manasagangotri, Mysore - 570 006, India, during March 23-25, 1995.
82. **Umesha, S.**, Shylaja, M.D. and Shetty, H.S. 1995. Biomolecular differences between the resistant and susceptible pearl millet. Paper presented in the National Seminar on Seed Pathology held at Department of Studies in Applied Botany, UOM, Manasagangotri, Mysore-570 006, India, during March 23-25, 1995.
83. **Umesha, S.**, Shylaja, M.D. and Shetty, H.S. 1995. Molecular mechanisms of Downy mildew disease resistance in pearl millet. Paper presented in Global (**International**) conference on advances in research on plant disease and their management held at Rajasthan College of Agriculture, RAU, Udaipur-313 001, India, during Feb, 12-17-1995.

17. Chairman/Member of Authority/Committee etc:

Sl. No.	Chairman/Member /Secretary	Committee/Authority	Year (From-To)
1.	Chairman	BOE; Biotechnology (PG); Univ. of Mysore, Mysore	2017-18
2.	Member	BOE-Biotechnology; Gulbarga Univ., Gulbarga	2014-15
3.	Member	BOE-Biotechnology; Mangalore Univ., Mangalore	2014-15
4.	Member	BOS- Applied Botany; Univ. of Mysore, Mysore	2013-16
5.	Member	BOS-Biotechnology; Univ. of Mysore, Mysore	2013-21
6.	Member	BOE-Biotechnology; Karnataka, University, Dharwad	2011-13
7.	Member	BOS- Botany, CAS in Botany, Madras Univ. Chennai	2013-16
8.	Chairman	BOE in Applied Botany, University of Mysore, Mysore	2012-13
9.	Chairman	BOE; Botany; Davanagere Univ., Davanagere	2012-13
10.	Member	BOS; Microbiology; (UG); Bangalore Univ. Bengaluru	2011-13
11.	Chairman	BOE; Biotechnology (PG); Univ. of Mysore, Mysore	2011-12
12.	Member	BOS; Biotechnology (UG); Univ. of Mysore, Mysore	2010-13
13.	Member	BOS; Applied Botany (PG); Univ. of Mysore, Mysore	2010-13
14.	Member	BOE; Biotechnology, KSOU, Mysore	2010-11
15.	Member	BOE; Applied Botany, University of Mysore, Mysore	2010-11
16.	Member	BOE; Biotechnology, University of Mysore, Mysore	2010-11
17.	Member	BOE; Botany, Kuvempu University, Sahyadri	2010-11

		College, Shimoga, Karnataka	
18.	Member	BOE; Biotechnology, Kuvempu University, Sahyadri College, Shimoga, Karnataka	2009-11
19.	Chairman	BOE; Board of Question Paper setter, BSc-Forestry, Kannur University, Kannur, Kerala	2009-10
20.	Chairman	BOE in Applied Botany, University of Mysore, Mysore	2009-10

18. Membership to professional Organization/Associations:

Sl. No.	Name of the Association/Organizations	Life member/Ordinary member
1.	International Society of Biotechnology, India	Fellow Member
2.	Indian Science Congress Association, Kolkata.	Life Member
3.	Indian Society of Mycology and Plant Pathology, Udaipur	Life Member
4.	Indian Phytopathological Society, New Delhi.	Life Member
5.	Indian Society of Seed technologists, New Delhi	Life Member
6.	Society of Biotechnologists, Mysore	Life Member
7.	Association of Microbiologists of India	Life Member

19. Any other Information:

Popular articles published in periodicals:

1. **Umesha, S.** and Shetty, H.S. 1997. *Sasyarogagala Jaivika Niyanthrana - Raitharigonda Varadhana* (in Kannada), **Prajavani - Krishiranga**, Jan 1, 1997.
2. Shetty, H.S., Shylaja, M.D. and **Umesha, S.** 1998. Effective management of disease in Bajra. **The Hindu**, Dec 8, 1997.
3. Shetty, H.S., Shylaja, M.D. and **Umesha, S.** 1998. Pearl millet and mildew disease, **Indian Express - Science Express**, June 23, 1998.
4. **Umesha, S.** and Shetty, H.S. 1998. *Sasyarogasamrakshaneyelli Aanvayika Vijnanada Koduge* (in Kannada), **Vignana Karnataka** 19 (3-4): 41-47.
5. **Umesha, S.** and Shetty, H.S. 2000. *Beejothpadaneyalli Swavalambhane* (in Kannada), **Vijaya Karnataka - Krishi Vijaya**, 27, March 2000.

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(SIGNATURE)