Dr. PETIKAM SRINIVAS Junior Plant Pathologist

Plant Pathology Section, College of Forestry and Hill Agriculture, G.B. Pant University of Agriculture and Technology, Hill Campus, Ranichauri- 249199 Tehri Garhwal, Uttarakhand, INDIA

E-mail: petikam@yahoo.com
+919410379247
http://petikam.tripod.com/

Overview

- Having experience in evaluation of genetic and pathogenic diversity of fungal plant pathogens and biocontrol agents, with a strong molecular biology background having interest and mindset in continuing the research career in the field of molecular plant pathology and phylogenetic studies.
- Well versed with disease diagnosis and formulation of integrated disease management strategies
- Having expertise in <u>development of biocontrol agents</u> with respect to screening, evaluation, biofermentation processes and field evaluation with applications for welfare of farmer community with output based research and development.
- Having working knowledge in usage of computers particularly Microsoft Office and Bioinformatic tools.
- Have experience and aptitude for <u>data mining and compilation</u>; project conception and <u>formulation</u>; review and analysis of specific research activity and publication.
- Having propensity of working in an organizational set up with responsibility for shouldering leadership, along with <u>ability to motivate team companionship</u>.

Education

Doctor of Philosophy (Plant Pathology)		
Indian Agricultural Research Institute, New Delhi	3.70/4	1999-2003
Master of Science (Plant Pathology)		
Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu	8.94/10	1996-1999
Bachelor of Science (Agriculture)		
Mahatma Phule Agricultural University, Rahuri, Maharastra	8.45/10	1992-1996

Thesis work

M. Sc. (Agri.) Thesis

Srinivas, P. 1998. Biological management of rice (*Oryza sativa* L.) seed borne pathogens by native microorganisms. Thesis submitted to Agricultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu.

Ph.D Thesis

Srinivas, P. 2002. Genetic and pathogenic variation of *Rhizoctonia solani* f. sp. sasakii incitant of banded leaf and sheath blight of maize. Thesis submitted to Indian Agricultural Research Institute (Deemed University), New Delhi.

Academic précis

Current Research Profile

Junior Plant Pathologist (since June 2006) College of Forestry and Hill Agriculture, G. B. Pant University of Agriculture and Technology, Hill campus, Ranichauri, Tehri Garhwal, Uttarakhand

- ✓ Involved in studying the status of diseases in Soybean, Maize and under utilized crops viz. Rice bean, Adzuki bean, Grain amaranth, Buck wheat etc. Evaluating the status of diseases in maize in Hill regions of Uttarakhand with special emphasis on Turcicum leaf blight.
- ✓ Serving as Co-PI & Nodal Officer for the project "Development and validation of Integrated Pest management strategies for in selected vegetable crops in mid hills of Uttarakhand".
- ✓ Teaching Seed Pathology to Post graduate students.

Previous Research Profile

Plant Pathologist (Feb 2004 to June 2006)

Rubber Research Institute of India, Rubber Board (Ministry of Commerce, Govt. Of India) Kottayam, Kerala The job profile involved in devising effective disease management strategies for control of major diseases of rubber (Hevea brasiliensis) plantations, with special emphasis on Abnormal leaf fall, Corynespora leaf fall and Colletotrichum leaf diseases. Evaluation of different biotic and abiotic agents for effective and economic control of diseases in rubber nursery, polybag plants, farmers' field and estates. Regular field visits for laying out experiments and providing advisory related to plant protection and production aspects, to the planters in rubber growing areas in Kerala, Karnataka and Tamil Nadu. Handled six internally funded research projects concerning above research areas.

Served as Officer-In-Charge, Regional Research Station, Rubber Research Institute of India Dhenkanal, Orissa, India from 26th December 2005 to 24th February 2006 on deputation.

Post Doctoral Research (as Research Associate) (Dec 2002 to July 2003)

Biological control of spot blotch of wheat Drechslera sorokiniana using Chaetomium globosum

Synopsis: The standardization of procedures for development of bioformulation for the biocontrol agent *Chaetomium globosum* using various substrates and growth conditions was undertaken. Different carrier materials were evaluated for the delivery of the biocontrol agent in the soil. In addition, procedure for retrieval of biocontrol agents from amended soils was standardized using various growth media for studying the population dynamics of the biocontrol agent in soil. Formulating alginate beads based bioformulation was also initiated.

Ph.D. Research (1999-2002)

Genetic and pathogenic variation of Rhizoctonia solani f.sp. sasakii incitant of banded leaf and sheath blight of maize

Synopsis: The morphological, pathogenic and genetic variability of Indian isolates of *Rhizoctonia* solani f.sp. sasakii isolates was documented. Morphological variation was determined using visual, light microscopic and Scanning Electron Microscopic (SEM) observations. Pathogenic variation and blight types were postulated based on the pattern of symptoms produced in the different host pathogen interactions. The genetic variation was determined by RAPD analysis. The cloned and sequenced portion of Internal Transcribed Spacer (ITS) region sequence was aligned with other published sequences in GenBank and confirmed the AG-grouping of the Indian maize isolates. This kind of characterization of Indian *Rhizoctonia solani* f. sp. sasakii isolates is the first report form India and ITS region sequence characterization of Maize isolates of *Rhizoctonia solani* f.sp. sasakii is first report in world.

M.Sc. Research (1996-1999)

Biological Management of Rice (Oryza sativa) Seed Borne Pathogens by native microorganisms

Synopsis: Various native mycoflora were screened to evaluate their biocontrol efficacy against three major rice seed borne pathogens causing seed discolouration and reduction in seed quality. A few fungal and bacterial isolates were selected and were tested for production of volatile and non-volatile metabolites effective against the pathogens. The fungal biocontrol agents were evaluated for their compatibility to commonly recommended fungicides and their effectiveness under field conditions.

Professional Membership

Life Member, Indian Phytopathological Society, New Delhi

Life Member, Society of Plant Protection Sciences, New Delhi

Life Member, Indian Society of Mycology and Plant Pathology, Udaipur

<u>Languages known</u>

Speak: Hindi, English, Marathi, Malayalam, Oriya, Telugu, Tamil

Read: Hindi, English, Marathi, Oriya

Write: Hindi, English.

Honors and Awards

1996- Selection for admission in M.Sc. (Agri.) under the ICAR-JRF national examination

1999- Award of Merit Fellowship by Indian Agricultural Research Institute, New Delhi.

2001- Award of Senior Research Fellowship by Agricultural Scientist Recruitment Board (ASRB)-ICAR

2001 & 2002-Award of National Eligibility Test (NET)-Certificate for the eligibility of Assistant Professorship in SAUs by Agricultural Scientist Recruitment Board (ASRB)

2003- Award of IPS Travel Grant for Young Scientists, Indian Phytopathological Society, New Delhi.

2003- M.J. Narasimhan award of commendation

2005- Award of full grant for presenting research paper at 9th Asian Regional Maize Workshop, China

Reviewer for National and International Scientific Journals:

✓ Indian Phytopathology

✓ Annals of Plant Protection Sciences

√ Journal of Phytopathology

✓ Current Microbiology

Teaching

a. Under Graduate Level:

Course No. Title of Course

CFE 312 Forest Entomology and Nematology ARE 390 Rural Awareness work programme

NSS 201 National Service Scheme

b. Post Graduate Level:

Course No. Title of Course APP 615 Seed Pathology

Paper Setting/ External Examiner

- ✓ Paper setter of M.Sc. Biotechnology; for Seed pathology; Immunology and Immunotechnology;
 Microbial Biotechnology; Cell and Molecular Biology. CCS University
- ✓ Paper setter of B.Tech. Biotechnology CCS University
- Answer-sheet evaluation of M.Sc. Biotechnology Microbial Biotechnology CCS University.
- ✓ Practical examiner of M.Sc. Biotechnology Students, CCS University.

Student guidance:

<u>Guided</u> MSc Biotechnology student on <u>"Expression of Induced Systemic Acquired Resistance in novel clones of Hevea brasiliensis"</u> from Department of Biotechnology, University of Kerala, Kariavattom campus, Thiruvanthapuram, Kerala.

Member of advisory committee for student for M.Sc. Seed Science and Technology for thesis work on "Seed Quality Parameters and Associated Seed borne Mycoflora of Rice Bean (Vigna umbellata) and Adzuki Bean (V. angularis) in mid hills of Uttarakhand" from Dept. of Seed Sci. & Tech., College of Forestry and Hill Agriculture, GB Pant University of Agriculture & Technology, Hill Campus, Ranichauri, Uttarakhand.

<u>Member of advisory committee</u> for student for M.Sc. Seed Science and Technology for thesis work on <u>"Induction of systemic resistance in Rice Bean (Vigna umbellata) and Adzuki Bean (V. angularis)</u> through seed bacterization" from Dept. of Seed Sci. & Tech., College of Forestry and Hill Agriculture, GB Pant University of Agriculture & Technology, Hill Campus, Ranichauri, Uttarakhand.

Work experience and knowledge in the fields of

Biocontrol experimental techniques:

Culturing and handling of Fungal and bacterial pathogens/biocontrol agents.

Evaluation and assessment of potential biocontrol agents, botanicals

Development and evaluation of bioformulations.

Experimental layouts in laboratory and in fields for evaluation and data collection.

Plant Disease Management:

Disease diagnosis and identification

Disease assessment and screening

Integrated Disease management

Nucleic acid based Techniques:

PCR; RAPD; RFLP; AFLP; SCAR marker development.

Recombinant DNA techniques.

Nucleic acid hybridization techniques

Sequence analysis and bioinformatic applications.

Protein based Techniques :

PAGE, Chromatography, ELISA, Dot Blots etc.

Isolation, purification and characterization of fungal toxins and microbial proteins Isozyme analysis

Professional Experience

Resource Person for National and International Trainings:

National:

- Served as resource person for the Training on Application of molecular techniques in Plant Pathology, 20th Aug. to 9th Sept. 2002. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi.
- Served as resource person for the Training Programme on Challenges and Opportunities of Biological Control in Plant Disease Management. 16th Oct to 5th Nov., 2001.Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi.
- Served as resource person for the Training on Disease Management through Host Resistance. 20th Aug. to 9th Sept. 2002. Center for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi.
- **Served as resource person** for the Training on **Molecular taxonomy of Symbiotic fungi**. 2nd Dec. to 23rd 2003. JNU, New Delhi.
- Served as resource person for the Training on Application of Biochemical and Molecular techniques for characterization of Plant pathogens. 9th to 29th March 2004. Center for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi.

International:

• Served as resource person for the International Training on Strategies for management of Corynespora leaf fall disease of Hevea brasiliensis. 18th to 29th April 2006. Division of Plant pathology, Rubber Research Institute of India, Kottayam, India.

Resource Person for National Symposiums:

- Guest Lecturer and chairperson for Poster session evaluation in "National Symposium on Recent Trends in Biotechnology" Bishop Heber College, Tiruchirapalli on 24th and 25th Feb. 2005.
- Guest Lecturer and evaluator for Poster session in "Southern Regional Symposium on Recent Applications in Biotechnology" MET's School of Biotechnology, Mala, Trissur on 21st Oct. 2005.

Knowledge and experience with computer systems and programs

- 1. Working knowledge of Personal Computer especially in Microsoft Office.
- **2.** Computer programming and application for statistical analysis. Working experience in analyzing agricultural data in IRRISTAT and MSTAT programme.
- 3. Working knowledge of computer based molecular and conventional statistical sequence analysis SPSS; NTSys 2.02, BioEdit etc.

Extension activities:

Resource Person for Extension Activities:

- Resource person for Shastradarshan programmes for training farmers from various parts of the country in rubber disease management, organized regularly by the Training division of Rubber Board, Kottayam during 2004-2006.
- **Resource person** for **TWO Kisan melas** organized by G.B. Pant University of Agriculture and Technology (**Oct. 2006**) and other agencies (HARC, Naugaoun, Uttrarkashi- **Jan 2008**).
- Resource person for technology demonstrations and training programmes for farmers and technical personal visiting Hill campus, Ranichauri, on Biological disease management strategies and Organic farming, organized at G.B. Pant University of Agriculture and Technology, Hill campus, Ranichauri.

Farmer's training/Field day/Front line demonstrations:

- ✓ Participated and delivered lecture in **one day farmers' interaction & training** programme at Koti-Kanasar (Dehradun) on Apple-IPM on Dec. 29, 2006.
- ✓ Participated and delivered lecture in **one day farmers' interaction & training** programme at Dhanaulti on Apple-IPM on 15th Feb, 2008.
- ✓ Participated and delivered lecture in **one day farmers' interaction & training** programme at Jakhdhar/Haldia on Apple-IPM on in Feb, 2008.
- ✓ Organized Krishak Pathshala on 9th July 2008 in village Pali to address the insect and disease problems in Ginger crop.
- ✓ Organized Krishak Pathshala on 26th July 2008 in village Jadipani to address the insect and disease problems in Vegetable crops like capsicum, cabbage etc.

International exposure:

1. Five days **9**th **Annual Regional Maize Workshop** at **Beijing, China** jointly organized by International Maize and Wheat Improvement Center (CIMMYT), Mexico and Chinese Academy of Agricultural Sciences (CAAS), China, from 5th Sept. to 9th Sept. 2005.

<u> Trainings / Workshops Attended:</u>

- Three days extensive course on BIOINFORMATICS: Current Research Applications & Emerging Business Opportunities, at School of Information Technology, Jawaharlal Nehru University, New Delhi conducted by Centre for Electronics Test Engineering, STQC Directorate, Department of IT, Ministry of Communications and IT, Government of India in association with M/s Mascon Global Ltd. New Delhi, from 15th to 17th May 2003.
- 2. Seven days training cum **Workshop on Fungal Biotechnology** at Centre for Advance Studies in Botany, University of Madras, Guindy Campus, Chennai, from 20th Oct. to 26th Oct., 2004.
- 3. Two days **Interactive Workshop on Biofertilizers**, at Indian Agricultural Research Institute, New Delhi organized by Division of Microbiology & CCUBGA under NATP project "HRD in Biofertilizers' Team of excellence held on 5th Nov. to 6th Nov, 2004.
- 4. Twenty one days **Winter school on Integrated Pest and Disease Management in Irrigated Crops** at College of Agriculture, University of Agricultural Sciences, Raichur, Karnataka, from 21st Nov. to 11th Dec. 2007.
- 5. Five days training cum **International Workshop on Integrated Pest Management** jointly organized by Federation of Indian Chambers of Commerce and Industries (IFICCI) and MASHOV, Israel at FICCI head office, New Delhi, from 19th May to 23rd May, 2008.
- Ten days Short course on Application molecular tools in identifying disease resistance genes/mechanisms in crop plants at Sugarcane Breeding Institute, Coimbatore, from 10th to 19th Dec 2008.

Research Projects:

Internally funded:

at Rubber research institute of India, Kottayam Kerala

Project Code: HQ. PAT 1

Studies on Abnormal Leaf Fall Project Leader: Dr. C. Kuruvilla Jacob

HQ. PAT 1.1 – Effect of low dose of COC in combination with Rubber seed oil and spray oil for abnormal leaf fall control

Experiment leader: **Dr. P. Srinivas**

Project Code: H.Q. PAT. 5

H.Q. PAT. 5.1 – Induction of Systemic acquired resistance against Colletotrichum leaf disease.

Experiment leader: **Dr. P. Srinivas**

Project Code: H.Q. PAT 8

Screening of germplasm and Hand Pollinated (HP) clones against diseases Project Leader: Dr. Annakutty Joseph

H.Q. PAT 8.1 – Field screening of germplasm for tolerance to Abnormal leaf fall.

Experiment leader: Dr. P. Srinivas

H.Q. PAT 8.3 – Screening of germplasm for tolerance to Colletotrichum leaf diseases

Experiment leader: Dr. P. Srinivas

Externally funded:

Projects in hand*

Name of project(s)	Name of Project Leader	Associated as	Duration of the Project	Total Outlay	Funding Agency
Development of organic package of practices for various farming situations in Uttaranchal	Dr. D.K. Singh	Co-Nodal Officer for Ranichauri centre (since 2006	5 yrs	250 lakhs	Uttarakhand state
Development and validation of Integrated Pest management in Selected vegetables*	Dr. D.B. Ahuja	Co-PI and Nodal Officer for Ranichauri centre	3 yrs Since March. 08	6.04 lakhs	NCIPM, New Delhi
Devising an integrated apple disease management program through the use of antagonists, need based fungicides and advisory services in Uttarakhand hills*	Dr. K. P. Singh	Co-Pl	3 yrs Since Oct. 07	10.00 lakhs	UCOST, Dehradoon
Bio efficacy of UPF 804 against powdery mildew diseases of pea	Dr. P. Srinivas	PI	3 months	0.5 lakhs	United Phos. Pvt.

Non-funded:

Title	Institution	Associated as	Duration	Amount	Funding agency
All India Co-ordinated Project on Under Utilized Crops*	GB Pant University of Agriculture &Technology and other co-ordinating centres	Associated Scientist	Long term	~12 lakhs	ICAR

Publications

Publications in Referred Journals:

Full research papers:

- 1. **Srinivas**, **P**. and Ramakrishna, G. 2002. Use of native microorganisms and commonly recommended fungicides in integrated management of rice seed borne pathogens. Annals of Plant Protection Sciences **10** (2) 260-264.
- 2. **Srinivas**, **P**. and Ramakrishna, G. 2003. Native microorganisms produce volatile and non-volatile metabolites in biological management of rice seed borne pathogens. Annals of Plant Protection Sciences. **11**(1) 53-56.
- 3. **Srinivas**, **P**. and Ramakrishna, G. 2005. Biological management of rice seed borne pathogens by native biocontrol agents. Annals of Plant Protection Sciences **13**(2)422-426.
- 4. **Srinivas, P.,** Rashmi Aggarwal, R.C. Sharma. 2007. Variability in sclerotial morphology of Rhizoctonia solani f. sp. sasakii incitant of banded leaf and sheath blight of maize, through Scanning Electron Microscopy. Indian Phytopathology **60**(1)58-62.
- 5. Pramod G., Palanisami A. and **Srinivas P.** 2007. Survey of post harvest diseases of papaya fruits in Coimbatore markets. Annals of Plant Protection Sciences **15**(1)140-144.
- 6. Pramod G., Palanisami A. and **Srinivas P.** 2007. Evaluation of botanicals and bio-control agents against post harvest pathogens of papaya. Annals of Plant Protection Sciences **15**(2)527-528.
- Jacob, C.K., Srinivas, P., Prem, E., Mushrif, S.K., and Idicula, S.P. 2007. Rubber seed oil for partial substitution of mineral oil used as carrier for copper fungicides in the management of abnormal leaf fall disease of rubber. <u>Journal of Rubber</u> Research, Malaysia. 10(1):54-61.
- 8. Kumar B., J. Kumar and **Srinivas**, **P.** 2007. Occurrence of Downy Mildew or Green Ear Disease of Finger Millet in Mid Hills of Uttarakhand. J. Mycol. Pl. Pathol. **37**(3):532-533.
- 9. Kumar B., J. Kumar and **Srinivas P.** 2007. Head Smut: A New Disease of Barnyard Millet in Mid Hills of Uttarakhand. J. Mycol. Pl. Pathol. **38**(1):142-143.
- 10. Pramod G., Palanisami A. and **Srinivas P.** 2009. Effect of papaya latex on spore germination of post harvest pathogens of papaya. Annals of Plant Protection Sciences (in press) **17**(1)
- 11. Rashmi Aggarwal, Renu, **Srinivas P.** and Malathi V.G. 2009. Evaluation of genetic diversity of Chaetomium globosum, a potential biocontrol agent by Amplified Fragment Length Polymorphism (AFLP). Indian Phytopathology (Accepted) **62**(3).
- 12. Rashmi Aggarwal, Sangeeta Gupta and **Srinivas P.** 2009. Intraspecific variations in Indian isolates of Bipolaris sorokiniana infecting wheat based on morphological, pathogenic and molecular characters. Indian Phytopathology (Accepted) **62**(2).
- 13. Bijender Kumar, Dinesh Prasad and **Srinivas P.** 2008. Antifungal activity of different botanicals and medicinal plants from Himalayan hills against Rhizoctonia solani, the incitant of storage rhizome rot of ginger. Indian J. mycology & phytopathology. (Submitted).

Abstracts:

- 14. **Srinivas, P.** and Ramakrishna, G. 2000. Biocontol of rice seed borne pathogens by native microorganisms by production of volatile and non-volatile metabolites. (Abstract). Indian Phytopathology **53**:357.
- 15. **Srinivas, P.** and Ramakrishna, G. 2002. Seed borne pathogens of rice and their effect on seed quality. (Abstract) Indian Phytopathology **55**:374.
- 16. Rashmi Aggarwal, **Srinivas P.**, Renu, V.G. Malathi and Srivastava K.D. 2003. Evaluation of genetic diversity of Chaetomium globosum, a potential biocontrol agent by Amplified Fragment Length Polymorphism (AFLP). (Abstract) Indian Phytopathology **56** (3) 313.
- 17. **Srinivas, P.**, Sharma, R.C., Malathi V.G. and Aggarwal R. 2003. Genetic and pathogenic variability of Rhizoctonia solani f. sp. sasakii incitant of banded leaf and sheath blight of maize. (Abstract) Indian Phytopathology **56** (3) 307.
- 18. **Srinivas, P.,** Seena, W., Krishnakumar, R. and Jacob, C.K. 2005. Induction of systemic acquired resistance in Hevea brasiliensis against Colletotrichum acutatum by chemical inducers. (Abstract) Indian Journal of Mycology and Plant Pathology **35**(3)265.
- 19. K. Patil, K. Upreti, Vijaya Kumar, **Srinivas P.**, B. Kumar and D. Khulbe 2007. Evaluation of effect of seed borne inoculum on seed health of rice in Uttaranchal. (Abstract) Indian Phytopath. 60(3):399.
- 20. Kumar V., Chauhan A.R., Pankaj, K., Shambhu, P., **Srinivas, P.** and Singh, K.P. 2007. Effect of chemical seed treatment on germination and seedling infection in rice. (Abstract) Indian Phytopath. 60(3):399.
- 21. Singh, K.P., Dinesh Prasad, **Srinivas**, **P.** and Kumar J. 2007. Apple pests in organic orchards of Gangotri valley. (Abstract) Indian Phytopath. 60(3):399.
- 22. Bijender Kumar, J. Kumar and **Srinivas P.,**2007. Symptoms of Downy Mildew or Green Ear Disease of Finger Millet, healthy earhead (left) and fully affected earhead converted into green ear (right). J. Mycol. Pl. Pathol. 37(3): (cover photo).

- 23. Kumud Upreti, Khulbe, D., **Srinivas P.**, Dutta, M. 2007. Seed Health Testing of Rice Bean (Vigna angularis) in Mid Hills of Uttarakhand. Indian Journal of Mycology and Plant Pathology. (Abstract) 37(3): 605-606.
- 24. **Srinivas**, **P.**, Seena, W., Kumari Jayashree, P., Jacob, C.K. and Thulaseedharan, A. 2007. Expression of induced systemic acquired resistance in calli of novel clones of Hevea brasiliensis against Colletotrichum acutatum by chemical inducers. Indian Journal of Mycology and Plant Pathology. (Abstract) 37(3): 592.

Chapters in Training manuals:

National:

- 25. Malathi, V.G., Renu and **Srinivas, P**. 2001. Amplified Fragment Length Polymorphism. In: Training manual on Application of molecular techniques in Plant Pathology-A practical Manual. Center for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi pp 64-71.
- 26. Sharma, R. C., **Srinivas**, **P**. and Rai S.N. 2001. Use of Bioagents against maize pathogens. In: Practical Manual on Training Programme on Challenges and Opportunities of Biological Control in Plant Disease Management. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi. pp. 11-17.
- 27. Sharma, R. C., Rai S.N. and **Srinivas**, **P**. 2002. Mass culture production and inoculation techniques for foliar diseases in maize. In: Practical manual on training on disease management through host resistance. 20th Aug. to 9th Sept. 2002. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi pp. 22-32.
- 28. Sharma, R. C., Rai S.N. and **Srinivas**, **P**. 2002. Preparation of mass culture and inoculation techniques for stalk rots diseases in maize. In: Practical manual on training on disease management through host resistance. 20th Aug. to 9th Sept. 2002. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi pp.33-38.
- 29. Sharma, R. C., Rai S.N. and **Srinivas**, **P**. 2002. Scoring of disease reaction for resistance against maize diseases. In: Practical manual on training on disease management through host resistance. 20th Aug. to 9th Sept. 2002. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi pp 39-45.
- 30. Malathi V.G. and **Srinivas**, **P**. 2002. Polymerase chain reaction (PCR) of fungal genomic DNA. In: Practical manual on training on disease management through host resistance. 20th Aug. to 9th Sept. 2002. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi pp 50-56.
- 31. Rashmi Aggarwal and **Srinivas P.** 2003. Determination of genetic diversity of plant pathogens using PCR. In: Practical manual on Training on Molecular taxonomy of Symbiotic fungi. 2nd Dec. to 23rd 2003. Jawaharlal Nehru University, New Delhi.
- 32. Rashmi Aggarwal and **Srinivas P.** 2004. Cloning of PCR product for developing SCAR marker. In Practical manual on Training on Application of Biochemical and Molecular techniques for characterization of Plant pathogens. 9th to 29th March 2004. Centre for Advanced Studies, Division of Plant pathology, Indian Agricultural Research Institute, New Delhi.

International:

- 33. **Srinivas, P.** and Sabu P. Idicula 2006. Fungicides in Corynespora leaf fall disease management. In: A laboratory manual for International training on strategies for management of Corynespora leaf fall disease of Hevea brasiliensis. 18-29 April 2006. Rubber Research Institute of India, Kottayam, Kerala, India. 40-49.
- 34. Sharma, R. C. and **Srinivas**, **P**. 2002. <u>Mycotoxins in maize</u>. In Lecture Compendium of CIMMYT International Training Course on Maize Post-harvest Technology. 29th July to 2nd August 2002. Directorate of Maize Research, Indian Agricultural Research Institute, New Delhi. pp C1 –C15.

Book Chapters:

- 35. Suralirajan, M. and **Srinivas P.** 2005. Advances in rice blast epidemiology and management. In: <u>Crop Protection:</u> <u>Management Strategies</u> (Ed. Prasad D.). **ISBN 81-7035-372-6** Daya Publishing House New Delhi-35 (pp 307-328) 676p.
- 36. **Srinivas P.** 2006. Possibilities of genetic control as sustainable management strategy against Corynespora leaf fall disease. In: Corynespora leaf disease of Hevea brasiliensis-Strategies for management (Eds. C. Kuruvilla Jacob, Srinivas P. and Roy C.B.). **ISBN 81-8743-916-5**. Rubber Research Institute of India, Kottayam, Kerala, India. pp 122-141.
- 37. Rashmi Aggarwal, **Srinivas P.** and Srivastava, K.D. 2006. Significant Achievements and Current Status: Biological Control. In: <u>One Hundred Years of Plant Pathology in India: An Overview</u>. Chahal S.S., Khetarpal, R.K. and Thind, T.S. (Eds.). **ISBN 81-7233-431-1**. Scientific Publishers, Jodhpur, India (pp 387-402) 453p.
- 38. Abraham, T., Mathew, J., **Srinivas, P.,** Jacob, C.K. 2006. Incidence of Taping Panel Dryness on popular rubber clones in Southern rubber growing regions of India. In: Taping Panel Dryness of Rubber trees. James Jacob, Krishnakumar, R. and N.M. Mathew (Eds) **ISBN 81-8743-919-X** Rubber Research Institute of India, Kottayam, Kerala, India; pp. 55-63.
- 39. Rashmi Aggarwal, **Srinivas P.**, Srivastava, K.D and Singh D.V. 2008. Soil borne diseases of wheat and their management. In: Advances in Soil Borne Plant Diseases. Naik M.K. and Devika Rani (Eds.). **ISBN 81-8942-281-2**. New India Publishing Agency, New Delhi (pp 165-217) 427p.
- 40. Singh K.P., **Srinivas P.** and Kumar B. 2009. Mycorrhizae: Benefits and Practical Applications in Forest Management. In: Soil Microflora. Gupta R.K., Kumar M., and Vyas D. (Eds). **ISBN 978-81-705-59-7**. Daya Publishing House New Delhi-35. pp 40-52.

Books/ Manuals/Technical bulletins:

Books:

41. Jacob, C.K., **Srinivas**, **P.** and Roy, C.B. 2006. Corynespora leaf disease of Hevea brasiliensis-Strategies for management. **ISBN 81-8743-916-5.** Rubber Research Institute of India, Kottayam, Kerala, India. 188p.

Manuals:

- 42. **Srinivas, P.**, Singh, K.P. and Kumar, B. 2008. Laboratory Manual on Seed Pathology. **FHA/13/PI Path/2008.** College of Forestry and Hill Agriculture, G.B. Pant University of Agriculture & Technology. 68p.
- 43. Singh, K.P., Kumar, J. and **Srinivas, P.** 2007. Laboratory Manual on Forest Pathology. **FHA/14/PI Path/ 2007** College of Forestry and Hill Agriculture, G.B. Pant University of Agriculture & Technology. 55p.
- 44. Jacob, C.K., **Srinivas, P.** and Roy, C.B. 2006. A laboratory manual for International training on strategies for management of Corynespora leaf fall disease of Hevea brasiliensis. Rubber Research Institute of India, Kottayam, Kerala, India. 58p.

Proceedings:

45. Mathew, N.M., Jacob, C.K., Nair, M.G.S, Thomas, K.K., Satisha, G.C., **Srinivas, P.**, Korah, A.C., Ajitha, A.S. and Joseph, L. 2005. Preprints of Papers. International Natural Rubber Conference INDIA 2005, 6th to 8th Nov. 2005. Cochin, Kerala, India 592p.

Technical bulletins:

46. Kumar J., **Srinivas P.**, B. Kumar and K. P. Singh. 2007. **vnjd** ds x Îh | Mu jkx dk | efdr uk"khtho icl/ku. <u>Technical bulletin</u>. **FHA/19/PI Path/2007** Plant Pathology Section, College of Forestry and Hill Agriculture, GBPUAT Hill campus.10p.

Folders/Technical brochures/ Booklets/other extension material:

- 47. Kumar, B., **Srinivas P.**, Singh K.P. and Kumar J. 2006. eVj d¢j"x" dk Ácl/ku. <u>Information folder</u>. Plant pathology section, College of Forestry and Hill Agriculture, GBPUAT Hill campus.
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Dr. D.V. Singh

Emeritus Scientist Division of Plant Pathology, Indian Agricultural Research Institute, Pusa Campus, New Delhi – 110012 dvs44@rediffmail.com

Dr. Rashmi Aggarwal

National Fellow,
Division of Plant Pathology,
Indian Agricultural Research Institute,
Pusa Campus,
New Delhi - 110012
rashmiiari@yahoo.com

Dr. C. Kuruvilla Jacob

Joint Director (Plant Protection)
Rubber Research Institute of India,
Rubber Board PO,
Kottayam –686 009 Kerala
kuruvilla@rubberbaord.org.in

Dr. V.G. Malathi

Principal Scientist,
Division of Plant Pathology,
Indian Agricultural Research Institute,
Pusa Campus,
New Delhi – 110012
vgmalathi@rediffmail.com

Dr. M.C. Nautiyal

Dean
College of Frestry and Hill Agriculture,
G.B. Pant University of Agriculture and Technology, Hill Campus,
Ranichauri- 249199
Tehri Garhwal, Uttarakhand, INDIA

Declaration:

The particulars given by me in this resume are complete and correct to best of my knowledge.

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(P. SRINIVAS)