

**Dr. John Prasanth Jacob** M.Sc., Ph. D  
*Scientist-G*



**Core Specialization**

Entomology

**Research Interest**

Biochemical basis of host plant resistance in trees against insect pests.  
 IPM Package for forest insect pests  
 Chemical ecology in insect-plant interactions

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***Academic details***

Name of the Degree	Subjects	Specialisation	University	Year	% of marks Division
Ph.D	Zoology	Entomology	Madras University	1991	Highly commended
PG. Dip	Entomology	Field Oriented Entomology	Entomology Research Institute, Loyola College, Madras.	1989	Highly commended
M.Sc	Zoology	-	Kerala University	1986	61
B.Sc	Zoology	-	Kerala University	1984	73

***Professional details***

Name of the post held	Name of the Institute / organisation	Duration	
		From	To
Scientist-G	Institute of Forest Genetics & Tree Breeding, Coimbatore, India	2019	Till date
Scientist F		2014	2018
Scientist E		2008	2013
Scientist D		2004	2008
Scientist C		1999	2003
Scientist B		1998	1999
Scientist B	Rain Forest Research Institute, Jorhat, Assam, India	1993	1998
Research Scholar	Entomology Research Institute, Loyola college, Chennai, India	1987	1993

**Patent** : Plant volatile composition for trapping Eucalyptus gall wasp, *Leptocybe invasa*. (Patent No. 201641002449. Status: Grant of Patent awaited.

### *Projects implemented*

<b>S. No</b>	<b>Title</b>	<b>Duration</b>	<b>Agency</b>
1	Nursery Pests and their management	5 years (1993-1998)	Indian Council of Forestry Research and Education
2	Component under World Bank Project: Selection of insect pest/disease resistant phenotypes of teak, casuarina and eucalyptus	4 Years (1997-2001)	World Bank Forestry Research, Education and Extension Project (FREEP)
3	Development of Integrated Pest Management package for nursery insect pests of some Economically important tree species	3 yrs (2007-2010)	Department of Science & Technology (DST), Ministry of Science & Technology
4	Performance of selected clones of Casuarina equisetifolia for insect pests and disease tolerance and their response to biofarming practices.	3 years (2007-2010)	Indian Council of Forestry Research and Education
5	Characterisation and evaluation of allelochemical profiles of some economically important insect pest resistant tree species.	2 years (2008-2010)	Indian Council of Forestry Research and Education
6	Management of pre and post harvest pests on seeds of fast growing native tree species.	3 years (2010-13)	Indian Council of Forestry Research and Education
7	Development of appropriate integrated management methods for the <i>Eucalyptus</i> Gall wasp problem in nurseries.	2 years (2010-12)	Indian Council of Forestry Research and Education
8	Influence of <i>Eucalyptus</i> species on the natural enemies incidence on the gall wasp <i>Leptocybe invasa</i> .	4 years (2010-14)	Indian Council of Forestry Research and Education
9	Insect pest complexes on medicinal plants and the influence of pest damage on their active principles	4 years (2014- 2018)	National Medicinal Plants Board (NMPB) (Ministry of AYUSH)
10	Insect pests of out-planted saplings of ToF (Trees Outside Forests) species and their management	3 years (2016-19)	Indian Council of Forestry Research and Education
11	Development of volatile based lure for key insects pests of commercial tree species - teak ( <i>Tectona garndis</i> ) and Ailanthus ( <i>Ailathus excelsa</i> and <i>A. tryphysa</i> )	3 years (2019-2022)	Indian Council of Forestry Research and Education

## *Trainings*

<b>Name of the Training</b>	<b>Year</b>	<b>Name of the Institution /Place/ country</b>
Computer training on Web Designing and Multimedia.	2001	IFGTB & Arena multimedia, Coimbatore.
Methodologies in Host plant Resistance to insects	2002	TNAU, Coimbatore
Classical biological control eucalyptus gall wasp	2008	Agricultural Research Organisation, Jerusalem, Israel

## *Publications*

### **BOOKS**

1. John Prasanth Jacob (Editor) 2021 *Gall-Inducing Arthropods on Forest Trees*. Scientific Publishers, Jodhpur, India ISBN:978-93-89412-80-2
2. John Prasanth Jacob (Editor) 2019 *Insect Pests of Trees outside Forests and Their Management* ISBN No. 978-93-82387-20-6. 80 pp.
3. John Prasanth Jacob and Rekha R. Warriar (Editors) 2019 *Insect Pests of Medicinal Plants and Their Management* ISBN No. 978-93-82387-19-0. 93 pp.
4. John Prasanth Jacob 2009 *Introduction to Field Oriented Forest Entomology* ICFRE Publication 2009,. 106
5. John Prasanth Jacob 2008. *Foresters Manual on Nursery Pests and Their Management*. (ICFRE Publication No. 126 ICFRE Bk 73/IFGTB Bk- 1. 60 pp.

### **BOOK CHAPTERS**

1. J. Prasanth Jacob 2013 Insect pests of forest nurseries and their management. In Modhumita Dasgupta and Rekha Warriar edited Nursery and Clonal Technology- A Training Manual. ICFRE 2013. pp 96-108.
2. J. P. Jacob, N. Ramasubramanian and A. Naveenkumar 2012, Behavioural aspects of some key pests of plantation forestry in India. In T. N. Ananthakrishnan and K. G. Sivaramakrishnan edited Dynamics of Insect Behaviour, Scientific Publishers (India) pp 92-116.

3. J. P. Jacob 2012, Insect Pests of Agroforestry in S. K. Thomas Edited *Selected Beneficial and Harmful Insects of Indian Subcontinent*. Lambert Academic Publishing Co. Germany pp 70-77.
4. J. P. Jacob 2009, Ecological Impact and Biodiversity of Insect Pests of Teak Chapter in T. N. Ananthakrishnan Edited Book (Biodiversity of Insects) Scientific Publishers 5-A, New Pali Road P O Box 91, Jodhpur - 342 001,India. pp 89-106

## **RESEARCH PAPERS**

1. John Prasanth Jacob, Nataraj, P., Vadivel, I., Senthilkumar, P. and Senthil, K 2018 Management of insect pests in forest nurseries for profitable tree cultivation. *My Forest* 2018. 54: 57-72.
2. Arun R., Silambarasan S., Senthil K. and John Prasanth Jacob (2016) Sap feeders and their management in multiplication garden of *Melia dubia*. *My Forest* 52: 57-62.
3. Blessan Santhosh George S. Silambarasan K. Senthil, John Prasanth Jacob, Modhumita Ghosh Dasgupta 2018 Characterization of an Insecticidal Protein from *Withania somnifera* Against Lepidopteran and Hemipteran Pest. *Molecular Biology* 60: 290-301.
4. Kannan C.S. Warriar, John Prasanth Jacob, Rekha R Warriar and V. Sivakumar 2018 Anatomical differences in tissue characteristics between juvenile and adult materials as well as female and monocious trees in *Casuarina equisetifolia* *International Journal of Current Research* 10 : 64866-64873.
5. J. PRASANTH JACOB and SENTHIL K. 2015 Pre and post harvest seed pests of *Pongamia pinnata* and their management. *My Forest* 51: 21-32.
6. J. Prasanth Jacob, K.Senthil, V.Sivakumar, R.Seenivasan1, p. chezhian1 and N.Krishna kumar 2015, Gall wasp *Leptocybe invasa* (Hymenoptera: Eulophidae) management in Eucalypts *Journal of Biological Control*, 29(1): 20-24, 2015.
7. N. Krishnakumar and J. Prasanth Jacob 2010, Eucalyptus gall- A recent invasive in man-modified forest ecosystem in Andhra Pradesh, *Karnataka Journal of Agricultural Sciences*. 23:217-219.
8. J. Prasanth Jacob and Ramsh Kumar A 2009, Incidence of Galls Induced by *Leptocybe invasa* on Seedlings of *Eucalyptus camaldulensis* and *E. tereticornis* from Different Seed Sources in Southern India, *International Journal of Ecology and Environmental Sciences*. 35 (2-3): 187-198.

9. J. Prasanth Jacob 2009, Invasive insect pest (*Leptocybe invasa*) in eucalyptus plantations in India, *ENVIS Forestry Bulletin*, 9 (1) 65-70.
10. J. Prasanth Jacob, A. Balu 2007, Biochemical and cuticular variation in teak clone leaves and resistance to teak defoliator. *Indian Forester* (2007) 133: 197-205.
11. J. Prasanth Jacob, R. Devaraj and R Natarajan 2007, Outbreak of the invasive gall-inducing wasp *Leptocybe invasa* on Eucalypts in India. *INVASIVES -Newsletter for the Asia-Pacific Forest Invasive Species Network* (2007) 8: 4-5.
12. J. P. Jacob, V. Mohan, N. Lalitha and N. Srimurugan 2006, First report of plant parasite *Cuscuta chinensis* on *Acacia nilotica* seedlings in forest nursery. *Indian Forester* (2006) 132: 903-905.
13. Nicodemus, A J. Prasanth Jacob and B. Nagarajan 2005. Pollination by nectarivorous birds in Teak clonal seed orchards. *Indian Forester* (2005) 131: 1613-1616.
14. J. Prasanth Jacob, N. Lalitha and N. Srimurugan 2005, Leaf gall problem in *Mimusops elengi* L. seedlings in forest nursery *My Forest* (2005) 41: 363-364.
15. J. Prasanth Jacob, S. Murugesan, A. Balu and B. Sunitha 2004, Organic pest control methods against some insect pests of forest trees. *My Forest* (2004) 40: 209-217.
16. Nicodemus. A. and J. Prasanth Jacob 2004, Bird pollinators of Teak. *News Letter for Bird Watchers* (2004). 44: 68-69.
17. J. Prasanth Jacob, A. Balu, S. Murugesan, B. Deeparaj and G. Srinivasan 2002, Variation in defoliator incidence on teak clones. *Proc. of the Natl. Symp. Vistas of Entomological Research for the new Millennium* (Eds) K.P. Sanjayan, V. Mahalingam and M.C. Muralirangan. (2002). 164-172
18. J. Prasanth Jacob, P.C. Sarma and D.K. Das. 2001, First report of canker grub on *Paulownia fortunei* (Scrophulariaceae). *The Indian Forester*(2001) 127: 821-822.
19. S. Murugesan, J. Prasanth Jacob and A. Balu 2000, Evaluation of some insecticides against *Caryedon serratus*, a seed pest of forestry tree species. *Pestology* (2000) 24: 65-70.
20. S. Murugesan, S. Ramarethinam, S. Marimuthu, J. Prasanth Jacob and A. Balu 2000, Insecticidal action of neem and vitex in comparison with synthetic pesticides on *Caryedon serratus*, a seed pest of *Acacia nilotica* and *Tamarindus indica*. *Pestology* (2000). 24: 3-8.

21. A.K.Pandey , J.Prasanth Jacob, D.K.Das and P.C.Sarma 1997, Insect feeding deterrence of *Cinnamomum camphora* oil against two defoliators of *Gmelina arborea*. *Indian Journal of Forestry* (1997) 20 : 98-100.
22. T. N. Ananthkrishnan and J. Prasanth Jacob, 1992, Bioenergetics in some acridids. *Annals of Entomology* (1992) 9: 95-99.
23. J. Prasanth Jacob and T. N. Ananthkrishnan 1992, Neurosecretory activity and protein synthesis during oocyte development in *Aularches scabiosae* (Orthoptera: Acrididae). *Hexapoda* 4: 1-12.
24. J. Prasanth Jacob 1991 Energy utilization efficiency of *Aularches scabiosae* (Orthoptera: Acrididae) in relation to leaf age of *Tectona grandis* Linn. F (Verbenaceae) and consequent changes in the gut enzymes. 4: 11-18.
25. J. Prasanth Jacob and K. Murugan 1989 Impact of natural and artificial diets in the feeding and reproduction in two species of Acridids (Orthoptera: Acrididae). *Entomon* (1989) 15: 221-226.
26. J. Prasanth Jacob 1989 Impact of age correlated biochemical changes of host plant on food consumption and utilization efficiency of *Aularches scabiosae* (Orthoptera: Acrididae). *Proceedings of Indian Academy of Sciences (Animal Sciences)* (1989) 98: 391-397.
27. K. Murugan and J. Prasanth Jacob 1988 Haemolymph protein profiles during the gonadotrophic period of *Gesonula punctifrons* Stal. (Orthoptera: Acrididae). *Proceedings of Indian Academy of Sciences (Animal Sciences)* (1988) 97: 423-427.
28. K. P. Sanjayan, K. Murugan and J. Prasanth Jacob 1988 Biochemical changes during embryogenesis in *Atractomorpha crenulata* Fab. (Orthoptera: Acrididae) *Proceedings of Indian Academy of Sciences (Animal Sciences)* 97: 137-139.

## PROCEEDINGS

1. K. Palanisamy, R.Anandalakshmi, Rekha R. Warriar, and Maria Dominic Savio and John Prasanth Jacob (2018) Harnessing Forest Genetic Resources for Climate Resilience. In Mohit Gera, Buvaneshwaran, C., Murugesan, S. and Sasidharan, K.R. (Eds.) (2018). Towards Resilient Ecosystems: The Role of Forestry Research - Synthesis and A Way Forward Proceedings of National Conference on Towards Resilient Ecosystems: The Role of Forestry Research held on 8 - 9 May, 2018 at Institute of Forest Genetics and Tree Breeding, Coimbatore. Pp. 1-204.

2. John Prasanth Jacob, K. Palanisamy, R. Anandalakshmi, Rekha R. Warriar, and Maria Dominic Savio (2018) Forest Health and climate resilience. In Mohit Gera, Buvaneshwaran, C., Murugesan, S. and Sasidharan, K.R. (Eds.) (2018). Towards Resilient Ecosystems: The Role of Forestry Research - Synthesis and A Way Forward Proceedings of National Conference on Towards Resilient Ecosystems: The Role of Forestry Research held on 8 - 9 May, 2018 at Institute of Forest Genetics and Tree Breeding, Coimbatore. Pp. 1-204.
3. J. PRASANTH JACOB (2017) Integration of insect-plant interactions in tree improvement programme- Solution for pest outbreaks in clonal forestry programme. Paper presented in National Conference on Tree Improvement in India: Current trends and future prospects. IWST, Bangalore February 2-3, 2017.
4. J. PRASANTH JACOB and P SENTHIL KUMAR (2017) Basics of IPM- Host Plant Resistance. Paper presented in National seminar -Discussion Meeting on Entomology Curriculum in Higher Educational Institutions, National Seminar Chennai. February 24 2017.
5. Mathish Nambiar-Veetil, Rathish Prabhakaran, Balasubramanian Balasubramanian Aiyar and John Prasanth Jacob 2017 An in silico strategy for rational design of insect-specific, multigene targeting chimeric hpRNAi constructs to obviate biosafety concerns in transgenic entomophilous trees. 5th Annual South Asia Biosafety Conference which will be held 11-13 September 2017 in Bangalore.
6. J. Prasanth Jacob, N. Krishnakumar, S Hariharan and K. Senthil 2012, Integrated methods of Eucalyptus gall wasp management in nurseries. Proc. of the national Seminar on Forest Health Management. March 2012 Coimbatore, India. 2012.
7. Mathish N V, Sangeetha M, Sowmiya Rani K., Aravindh kumar V., Selvakesavan R, Aiyar Balasubramanian, R Venkatachalam, Abraham Sanu Mary, John Prasanth Jacob, N Krishna Kumar 2011, Identification of insect-specific target genes for development of RNAi based control of the Eucalyptus gall pest *Leptocybe invasa* Fisher & La Salle (Hymenoptera: Eulophidae). BMC Proceedings. 2011, 5 (Suppl 7):P98.
8. J. Prasanth Jacob, N. Ramasubramanian and A. Naveenkumar 2010, Resistance in *Casuarina* Clones against Bark Feeding Caterpillar *Indarbela quadrinotata* (Lepidoptera: Metarbelidae), *Proc. Of 2<sup>nd</sup> National Seminar on Casuarinas* (3-4 March, 2011), Coimbatore. 2010.
9. S. Murugesan, R. Sundundararaj, J. Prasanth Jacob, J. Anitha and S. Karthick 2007, Biopesticidal potential of Neem against forest Insect Pests. Proc. 5<sup>th</sup> International World Neem Conference. Organised by Neem Science Foundation 21-24 Nov 2007, Coimbatore. (2007)

10. J. Prasanth Jacob and S. Murugesan 2007. Resistance and Susceptibility of Eucalypts to Invasive Gall Insect *Leptocybe invasa* (Hymenoptera : Eulophidae) in India. Paper presented in the 8<sup>th</sup> Annual Discussion Meeting on “Facets of Cecidology: Intricacies of Insect Plant interactions” at COSTED, Chennai. 2 December 2007. (2007).
11. J. Prasanth Jacob 2007. Problems with exotics and the need for research on native species- a case study of Eucalyptus gall. Paper presented in National Work shop on “Prioritization and characterization of fast growing native tree resources”. 8-9-Aug.2007, IFGTB, Coimbatore. (2007).
12. J. Prasanth Jacob 2007. Outbreak of an invasive gall-inducing wasp *Leptocybe invasa* in Eucalyptus plantations in India. Paper presented in National Seminar on “Implications of the Protection of plant varieties and farmers Right Act, 2001 to forestry sector. 4 &5 July 2007, IFGTB, Coimbatore. (2007).
13. J. Prasanth Jacob 2006, Insect pests of forests and their management. Proceedings of International Symposium on “Biodiversity of Insects: Challenging issues in management and conservation”, Bharatiyar University Coimbatore. (2006).
14. J. Prasanth Jacob and S. Murugesan 2005, Clonal diversity and insect resistance dynamics in forest trees. Paper presented in the 6<sup>th</sup> Annual Discussion Meeting on “Emerging technologies and Resistance Dynamics in Insects and Crop Plants” at COSTED, Chennai. 2 December 2005.
15. V. Mohan, J. Prasanth Jacob and P. Manokaran 2004, Disease problems and their management in forest nurseries and young plantations. Paper presented in *National Symposium on Recent Trends in Biology, Biodiversity and Biotechnology of Fungi*. University of Madras, Chennai
16. J. Prasanth Jacob 2004, Forest insect pests and their control. National Seminar on “Healthy Environment for the Next Generation”, Conducted by School of Entomology and Center for Natural Resources Management & P G Dept. of Zoology, Loyola College, Chennai.
17. J. Prasanth Jacob, S. Chakrabarthy. D.K. Das, P.C. Sarma and D. Gurung 2003, Changes in entomofaunal diversity in litter ecosystem in relation to shifting cultivation practices. Paper presented in the *National Seminar on Biodiversity Conservation and Participatory Forest Management*. Calicut Kerala, India
18. J. Prasanth Jacob, A. Balu and S. Murugesan 2002, Emerging trends in chemical ecology of forest pests. Paper presented in the 3<sup>rd</sup> Discussion meeting on *Applied*



*Chemical Ecology: Implications of Induced Resistance and Transgenics in Insect – Plant Interactions*. COSTED, Chennai (2002) 26-28.

19. J. Prasanth Jacob, S. Chakrabarti, D. K. Das, P.C. Sarma and D. Gurung 2001, Microfaunal changes in the litter ecosystem in relation to shifting cultivation. In *Integrated Approaches to Shifting Cultivation – Case Studies* Edited by K.G. Prasad, RFRI, Assam. (2001). Pp 244-257.
20. J. Prasanth Jacob, A. Balu and S. Murugesan 2001, Clonal variation in teak and resistance to teak defoliators. Proc. of 2<sup>nd</sup> Natl. Symp. on *IPM in Horticultural Crops: New Molecules, Bio-pesticides and Environment* (Eds) A. Varghese and P.P. Reddy. (2001) 17-19.
21. J. Prasanth Jacob 2001, Host plant variation in insect pest - natural enemy interactions – Exploitation in forestry. Paper presented in the 1<sup>st</sup> Discussion meeting on *Molecular modalities in the manipulation of insect natural enemies* . COSTED, Chennai. (2001) 29-32.
22. Balu, A. ,R. Rajarishi, J. Prasanth Jacob and S. Murugesan 2001, Integrated methods of management of the bark feeder, *Indarbela quadrinotata* (Lepidoptera : Metarbelidae). Proc. of 2<sup>nd</sup> Natl. Symp. on *IPM in Horticultural Crops: New Molecules, Bio-pesticides and Environment* (Eds) A. Varghese and P.P. Reddy. (2001) 50-51.
23. S. Murugesan, B. Sunitha, J. Prasanth Jacob and A. Balu 2001, Antibiotic effects of different tissues of *Acacia nilotica* extracts on *Tectona grandis* pests. In Proc. of 2<sup>nd</sup> Natl. Symp. on *IPM in Horticultural Crops: New Molecules, Bio-pesticides and Environment* (Eds) A. Varghese and P.P. Reddy. (2001) 89-90.
24. S. Murugesan, J. Prasanth Jacob and A. Balu 2000, Comparative toxicity of some insecticides against *Caryedon serratus*, a seed pest of forestry tree species. Proc. of the Workshop on *Recent trends in insect pest control to enhance forest productivity* (Eds) P.K. Shukla and K.C. Joshi. (2000) 17-22.