

## SCIENTIST PROFILE

Name Dr N. Sakthivel  
Designation Scientist -D  
Employee No. 04783  
Educational qualifications *M.Sc., M.Phil., B.Ed., Ph.D.,*  
Area of Specialization Economic Entomology / Sericulture  
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### Salient Achievements

#### INNOVATIONS MADE (4)

1. **SERITORCH** for cleaning and disinfection (heat sterilization) in sericulture.
2. **ERI-PICKLE**: A novel condiment for value addition to Eri pupae.
3. **FIELD BIO-CAGE** for mass multiplication of parasitoids of papaya mealybug and other natural enemies under field condition.
4. **THERMAL WEEDER** for mulberry garden.

#### TECHNOLOGIES DEVELOPED / STANDARDIZED (10)

1. **IPM** strategies for **spiralling whitefly**, *Aleurodicus dispersus* Russell infesting **mulberry**.
2. **IPM** strategies for **papaya mealybug**, *Paracoccus marginatus* Williams and *Granara de Willink* infesting **mulberry** (*Technical Bulletin published*).
3. Water jetting system for **eco-friendly management of papaya mealybug** and other sucking pests in mulberry.
4. **Organic Farming Strategies for mulberry garden**: Eco friendly soil health management, pest & weed management practices (*Technical Bulletin published*).
5. **“Thermal weeding in mulberry garden”** an eco-friendly weed management technology and to overcome the problem of scarcity of agriculture labours.
6. **“Black polythene mulching in mulberry garden and nursery”** for weed management cum soil moisture conservation.
7. Appropriate **mulberry cultivation technique** for deep rooting and **drought tolerance**.
8. **“Fogging system”** for silkworm rearing shed for **microclimate management** during summer
9. Technology for **large scale rearing of Eri silkworm** on

cassava and commercial production of eri silk.

10. Technology for **large scale production of Eri silkworm eggs.**

Awards /  
Honours/Patents

1. Appreciation for **very good performance in Grainage Extension Center**, Central Silk Board, Palacode, TN (1999- 2001), by National Silkworm Seed Organization, Central Silk Board, Bangalore. (No.CSB/NSSP/DO-GEC/TS/2001-02/932, Dated 07/06/2001).
2. Certificate of merit for **meritorious efforts on the promotion of Bivoltine Sericulture** in Salem cluster, Tamil Nadu (2001-2006), by Department of Sericulture, Government of Tamil Nadu, dated 06/10/2010.
3. **Best article award** from Department of Sericulture, Govt. of Tamil Nadu for **“Water jetting in mulberry garden for control of papaya mealybug”** published in the Departmental Tamil magazine “Pattu Malar.” Dated 28/02/2011.
4. **Young Achievers Award** by “Society for the Advancement of Human and Nature” (SADHNA), DR YS Parmar University of Horticulture and Forestry, Nauni, Solan – 173 230, Himachal Pradesh, India for outstanding contribution in the field of farming/agriculture, dated 18/06/2011.
5. Received **“Best Regional Extension Center award”** for Research Extension Centre, Central Silk Board, Srivilliputtur, TN, from Department of Sericulture, Government of Tamil Nadu on 18-12-2011, for outstanding contribution in transfer of sericulture technologies to the farmers of Tamil Nadu.
6. **Best presentation award for the research article** “Bioefficacy of neem derivatives and their synergism with FORS against mulberry thrips *Pseudodendrothrips mori* Niwa (Thripidae: Thysanoptera)” in National Workshop on Promotion of Sericulture for Sustainable Income, organized by Faculty of Agriculture, Department of Entomology, Annamalai University, Chidambaram, Tamil Nadu, held on 17 & 18/03/2012.
7. **Award for “Eco-friendly Technology Innovation** for the Management of Papaya Mealybug” by Department of Sericulture, Government of Tamil Nadu, India on 14<sup>th</sup> April 2012.
8. Award for **outstanding contribution to the “Classical Biological Control of Papaya Mealybug Infesting**

- Mulberry in India”** by National Bureau of Agriculturally Important Insects, Indian Council of Agricultural Research (NBAIL, ICAR), Bangalore, India on 20<sup>th</sup> October 2012.
9. **Appreciation** for significant contribution in the successful management of papaya mealybug (*Paracoccus marginatus*), an introduced pest of mulberry through classical biological control in South India by Central Sericultural Research and Training Institute, Central Silk Board, Ministry of Textiles, Government of India, Mysore, India on 4<sup>th</sup> January 2013.
  10. **Appreciation** for large scale field testing of L14 X CSR2 silkworm hybrid in Tamil Nadu by Central Sericultural Research and Training Institute, Central Silk Board, Ministry of Textiles, Government of India, Mysore, India on 27<sup>th</sup> March 2013.
  11. **Letter of Appreciation** from “Dr. B. B. Bindroo, Director, Central Sericultural Research and Training Institute, Mysore, dated 30/06/2014” for appreciable support, dedicated service, contribution and commendable achievements for acquiring grade “*Outstanding*” honoured by the Central Silk Board for the year 2013-14 to the Institute.
  12. Awarded “**Life Fellow of The Entomological Society of India**” (FESI), IARI, New Delhi on 31<sup>st</sup> December 2014
  13. Awarded “**Fellow of the Society for Biocontrol Advancement**” (FSBA), National Bureau of Agriculture Insect Resources, ICAR, Bangalore, India on 29<sup>th</sup> October 2014.
  14. **Letter of Appreciation** from “Dr. V. Sivaprasad, Director, Central Sericultural Research and Training Institute, Mysore, for significant **contribution in promoting Bivoltine Sericulture** under Cluster Promotion Programme during 2014-15 implemented jointly by Central Silk Board and Department of Sericulture, Tamil Nadu.
  15. **Best Poster Presentation Award** in the National Meeting on New/Safer Molecules and Biocontrol Technologies for Integrated Pest Management in Crops. Organized by Society for Biocontrol Advancement, ICAR, NBAIR, Bengaluru on 23<sup>rd</sup> February 2015.
  16. **Best Oral Presentation Award** in “1<sup>st</sup> Farm Innovation Congress,2018” and National Conference on “Innovative Farming for Food and Livelihood Security in Changing Climate” jointly organized by Innovative Farming,

Society for Advancement of Agricultural Innovations and Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal on 12-13<sup>th</sup> January, 2018.

17. **“Dr. B. Vasantharaj David Award – 2018”** by Applied Zoologists Research Association (AZRA), Bhubaneswar, Odhisa for original research contributions in plant protection.
18. Prestigious IRDP award: **Srinivasa Ramanujan Life Time Achievement National Award** for Innovations in Research by Innovative Research Developers and Publishers (IRDP), 2/5- Krishna Industrial Estate, Mettukuppam, Vanagaram, Chennai – 600095.
19. Award of **“Scientist of the Year – 2018”** by The Society of Tropical Agriculture, New Delhi, India in IJTA 7<sup>th</sup> International Conference on Agriculture, Horticulture and Plant Sciences held at Hotel Landmark, The Mall, Shimla (H.P.) on 28<sup>th</sup> & 29<sup>th</sup> June 2018.
20. **Life Time Achievement Award** for meritorious contribution to the science of Sericulture and Economic Entomology, Navsari Agricultural University, Navsari, Gujarat on 22.01.2019.
21. **Research Excellence Award** by Jayoti Vidyapeeth Women’s University, Jaipur in “National Conference on Organic Farming, Food Processing & Biotechnological Approaches for Livelihood Generation (OFLG-2019) on 6-8<sup>th</sup> February 2019.
22. **Outstanding Scientist Award 2019** by The Society of Tropical Agriculture, New Delhi, India in IJTA 9<sup>th</sup> International Conference on Agriculture, Horticulture and Plant Sciences held at Angel’s Inn Resort, Dharamshala (H.P.) on 27<sup>th</sup> & 28<sup>th</sup> June 2018.
23. Awarded **“Fellow of the Society for Biotic and Environmental Research”** Tripura, India in Biotic Science Congress – 2019 (BioSCon, 19) held at Sona College of Arts & Science, Salem, Tamil Nadu on 26<sup>th</sup> & 27<sup>th</sup> July 2019.
24. **Lifetime Achievement Award** by Society for Biotic & Environmental Research, Tripura India during Biotic Science Congress, 2019 held on 26 & 27<sup>th</sup> July 2019 at Salem, TN, India.
25. **Certificate of Appreciation** from Dr R.S. Teotia, Director, Central Sericultural Research & Training Institute, Central Silk Board, Mysore for outstanding

- contribution in bringing out publication of comprehensive technical bulletin entitled “Mulberry Pests: Current Status & Management Practices” in the in Biotic Science Congress – 2019 held at Sona College of Arts & Science, Salem, Tamil Nadu on 26<sup>th</sup> & 27<sup>th</sup> July 2019.
26. **Fellow of Society of Tropical Agriculture (F.S.T.A.)** , awarded by The Society of Tropical Agriculture, New Delhi in 9<sup>th</sup> International Conference on Agriculture, Horticulture and Plant Science held at Dharamshala, Himachal Pradesh on 27-28<sup>th</sup> June 2019.
  27. **Distinguished Scientist Award** from Society for Scientific Development in Agriculture Technology, Meerut, UP on 15<sup>th</sup> December 2021.
  28. **Outstanding Contribution to Science Award – 2019** for Commendable Contribution to Sericulture – Innovations, Technologies and Pest Management by Dr B. Vasantharaj David Foundation, Chennai-600125, TN on 17th November, 2019.
  29. **Distinguished Scientist Award** by Agro Environmental Development Society (AEDS), Rampur, Uttar Pradesh – 244922 on International web conference on New Trends in Agriculture, Environmental & Biological Sciences for Inclusive Development (NTAEBSID-2020) held on 21-22<sup>nd</sup> June 2020.
  30. **Certificate of Appreciation** by Department of Sericulture, Government of Mizoram on 16<sup>th</sup> March 2023 for excellent co-ordination with State Sericulture Department and outstanding Contribution for development of sericulture in Mizoram during the years 2021-22 and 2022-23.

### **PATENTS (3)**

1. **“SERITORCH”** for cleaning and disinfection (heat sterilization) in sericulture. **Patented (No.: PAT/4.4.90.2/02048/2003-NRDC, Chennai, India).**
2. **WATER JETTING SYSTEM** for **eco-friendly management of papaya mealybug** and other sucking pests in mulberry (**Applied for patent: NRDC, Reference Number: IPR/FA/13023/ 2013).**
3. **LOW-COST PROTEIN RICH ANIMAL FEED FROM SILKWORM PUPAE WASTE”** **Patent application number: 202141058753, dated 16.12.2021.**

Number of publications: 1) Research Papers: (nos.): **76**  
 2) Book/Book chapters: (nos.): Books: **11**; Book Chapters: **08**  
 3) Popular articles: (nos.): **64**  
 4) Conference/Seminar abstracts: (nos.): **86**

Top 5 publications

1. **Sakthivel, N.,** Balakrishna R. and S.M.H. Qadri (2011) Comparative efficacy of water jetting and chemical measures against major sucking pests of mulberry and their safety to natural enemies. *Journal of Biopesticides*, 4 (2): 219-230.
2. **Sakthivel, N. (2013)** Field performance of three exotic parasitoids against papaya mealybug, *Paracoccus marginatus* (Williams and Granara de Willink) infesting cassava in Tamil Nadu. *Journal of Biological Control*, 27(2): 83-87.
3. **Sakthivel, N. (2018)** Standardization of cassava leaf harvest in relation to ericulture cum tuber production, *International Journal of Agricultural Innovations and Research*, 6(5): 190-195.
4. **Sakthivel, N. (2019)** Impact of Black Polythene Mulching in mulberry garden on Weed Infestation, Soil Moisture, Plant Growth and Leaf yield under tropical conditions. *International Journal of Tropical Agriculture*, 37(1): 89-95.
5. **Sakthivel, N. (2021)** Impact of fogging system in silkworm rearing houses on cocoon production during summer months in tropical regions of Tamil Nadu, India. *International Journal of Tropical Agriculture*, 39 (3):259-263.

Work Experience 32 years experience in Research & Developments and extension in sericulture (Central Silk Board, Ministry of Textiles, Government of India) including Mulberry, Tasar & Eri silkworms: host plants crop improvement, organic farming, eco-friendly pest, disease and weed management, and silkworm rearing technologies).

| Position held             | From       | To         | Experience |
|---------------------------|------------|------------|------------|
| Scientist – D             | 26/02/2014 | Till date  | 10years    |
| Scientist – C             | 05/02/2007 | 25/02/2014 | 07 years   |
| Senior Research Officer   | 05/02/2002 | 04/02/2007 | 05 years   |
| Senior Research Assistant | 05/02/1992 | 04/02/2002 | 10 years   |

Projects handled

**As Principal Investigator: (4)**

- i) Studies on incidence, crop loss and management of spiralling whitefly *Aleurodicus disperses* Russell (Homoptera: Aleyrodidae) infesting mulberry in Tamil Nadu (3 years - 2001 to 2003) funded by Central Silk Board.
- ii) Evaluation of different water spraying methods for management of papaya mealybug in mulberry (6 months 2011) funded by Central Silk Board.
- iii) Standardization of “Thermal weeding” techniques for mulberry garden (6 months) funded by Central Silk Board. (November 2013 to April 2014). Project Code MPT(S)-0054, RSRS, Salem, Tamil Nadu.
- iv) Development of a user friendly technique for transplantation of mulberry saplings using auger and studies on its impact on labour economy, growth and yield parameters of the plants (one year: April 2014 – March 2015) funded by Central Silk Board.

**As Co- Investigator: (4)**

- i) Ericulture in Tamil Nadu, Pondicherry and Kerala states in India: A study on feasibility and technology development, refinement and transfer (3 years- 2003 to 2006) funded by Central Silk Board.
- ii) Pre-authorization Field Trials of L14xCSR2: A new Polyvoltine x Bivoltine hybrid with superior fiber qualities funded by Central Silk Board (2013-2014).
- iii) Survey and surveillance of major pests and their natural enemies in mulberry eco-system” funded by Central Silk Board (2015-2017). Project Code PRE-3527, CSR&TI, Mysore.
- iv) Silkworm disease monitoring of seed and commercial crop rearing of south Indian states funded by Central Silk Board (2014-2018). Project Code: ARP-3519, CSR&TI, Mysore.

Training imparted

- i. **Faculty Development programme** for formulation of new projects at JKK Nataraja College of Arts and Science, Komarapalayam, Tamil Nadu on 28.07.2014.
- ii. Science Academies **Refresher Course on “Insect Bio-resources and Human Welfare”** from 18<sup>th</sup> – 31<sup>st</sup> August 2018 at St. Xavier’s College (Autonomous), Palayamkottai – 627002, Tamil Nadu.
- iii. Organizing Chairman of 21 Days **National Training Course**

**On Technology Interventions Towards Transformation Agriculture, Sericulture, Animal Husbandry and Allied Sectors into Sustainable Enterprises for Atmanirbhar Bharat** organized by Central Sericultural Research & Training Institute (CSRTI), Mysuru, Agro Environmental Development Society (AEDS), UP and Pondicherry Institute of Agricultural Sciences, Puducherry during 11-31 October, 2020 and imparted training on Sericulture Entrepreneurship.

- iv. Course Coordinator of 21 days **National Training Course (NTC) on Entrepreneurship Strategies in Agriculture, Horticulture, Animal Husbandry & Allied Sectors for Economic Development of India**. Organized by Directorate of Extension Education, Uttar Banga Krishi Vishwavidyalaya, Pundibari, West Bengal & Agro Environmental Development Society, Rampur, UP by virtual mode during 01-21 December 2021 and imparted training on Sericulture Entrepreneurship.
- v. Patron of 21 Days **International Training cum Certificate Course (ITCC) on Technology Innovation in Agriculture, Horticulture, Animal Husbandry, Fisheries, Sericulture and Allied Sectors for Sustainable Entrepreneurship**. Organized by College of Horticulture and Forestry, Central Agricultural University, Pasighat, Arunachal Pradesh, Agro Environmental Development Society, Rampur, UP, Tribhuvan University, Kathmandu, Nepal and University of Debrecen, Hungary via virtual mode during 16<sup>th</sup> June to 06<sup>th</sup> July 2023. Imparted training on Entrepreneurship in Sericulture.
- vi. Co- Convener of 21 Days National Training Cum Refresher Course on **Approaches of Successful Entrepreneurship in Agriculture, Sericulture, Fisheries, Animal Husbandry & Allied Sectors** organized by Central Tasar Research and Training Institute Central Silk Board, Govt. of India, Ranchi, Jharkhand and Agro Environmental Development Society (AEDS), U.P. during 01-21<sup>st</sup> January, 2024.

Training attended

1. **Intensive Bivoltine Training** at Central Sericultural Research & Training Institute, Mysore. One month (01-03-2002 to 04-04-2002).
2. Trainers Training Programme on **Training Management** at University of Agricultural Sciences, Dharwad, Karnataka. Six days (19-08-2002 to 24-08-2002).
3. Workshop on **“Intellectual Property Rights and Patenting in Sericulture”** organized by Central Sericultural Research & Training Institute, Mysore on 25<sup>th</sup>



&28<sup>th</sup> August 2003.

4. Training on “**Bio-technology and Bio-informatics**” in sericulture organized by Central Sericultural Research & Training Institute, Mysore on 29<sup>th</sup> &30<sup>th</sup> August 2003.
5. Trainers Training Programme on **Ericulture** at NAARM, Hyderabad organized by Central Silk Board for ten days from 7<sup>th</sup> to 16<sup>th</sup> October 2003.
6. Training on **Detection & Identification of Pebrine Spores** at Silkworm Seed Technology Laboratory, Kodathi, Karnataka, Three days (08-07-2004 to 09-07-2004)
7. Training on **soil analysis** at Central Sericultural Research & Training Institute, Mysore. Six days (20-02-2006 to 25-02-2006).
8. Training on “**Demonstration on management of foliar disease and soil borne disease of mulberry**” at Central Sericultural Research & Training Institute, Mysore on 07/08/2007
9. Training on “**Leveraging Innovation for Knowledge Economy**” (Innovate India 2009) organized by National Research Development Corporation, Bengaluru – 560 055 on 19<sup>th</sup> & 20<sup>th</sup> November 2009.
10. **Mass production of papaya mealybug parasitoids**, National Bureau of Agriculturally Important Insects (NBAIL), ICAR, Bangalore. Two days (28-10-2010 to 29-10-2010).
11. Workshop on “**Bioinformatics and its Applications**” organized by Central Sericultural Research and Training Institute, Central Silk Board, Government of India, Mysore – 570 008, from 29<sup>th</sup> & 30<sup>th</sup> November 2012.
12. Workshop on “**Dissemination of Solar Passive Building for Silkworm Rearing**” organized by Silkworm Seed Technology Laboratory, Central Silk Board, Government of India, Kodathi, Bangalore – 560 035 on 06.03.2013.
13. Training on “**Implementation of Cluster Promotion Programme**” conducted by Central Sericultural Research and Training Institute, Central Silk Board, Government of India, Mysore – 570 008, from 18/04/2013 to 20/04/2013.
14. Attended three days “**Orientation training programme**” at Central Sericultural Research and Training Institute, Central Silk Board, Government of India, Mysore – 570 008, from 22/08/2013 to 24/08/2013.

15. Training on “**URKUND: Plagiarism Detection Software for Research Supervisors**” at Periyar University, Salem, Tamil Nadu on 09/08/2016.
16. **Seed Officers & Seed Analyst training programme** on 17 & 18 December 2018 at Silkworm Seed Technology Laboratory (SSTL), Central Silk Board, Kodathi, Bangalore.
17. Workshop on **Technologies to Enhance Bivoltine Silk Production in South India** organized by Central Sericultural Research and Training Institute (CSR&TI), Mysore on 24<sup>th</sup> February 2021.
18. Online Training Programme on “**Development of Entrepreneurial Skills for Promotion of Sericulture Industry**” organized by National Institute of Agricultural Extension Management (MANAGE), Hyderabad and CSR&TI, CSB, Berhampore, WB on 27-30<sup>th</sup> September 2021.

Any other information

1. **Expert member of Technical Advisory committee (TAC)**, Department of Scientific and Industrial Research (DSIR),, Ministry of Science and Technology, Government of India, Government of India, New Delhi under “Technology Development and Utilization Programme for Women” (TDUPW) from November 2017 to March 2020.
2. **Member of project review committee (PRC)** of Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India, New Delhi.
3. Fellow of Entomological Society of India (**F.E.S.I.**), IARI, New Delhi.
4. Fellow of Society for Biocontrol Advancement (**F.S.B.A.**), NBAIR, ICAR, Bangalore.
5. Fellow of Society for Biotic and Environmental Research (**F.S.B.E.R.**), Tripura.
6. Fellow of Society for Tropical Agriculture (**F.S.T.A.**), New Delhi.
7. **Research Supervisor** / Guide for Ph.D., in Sericulture under Periyar University, Salem, TN.
8. Attended 16 national and 12 international conferences.
9. Delivered 24 guest lectures and 10 lead talks.

## **CONFERENCES ORGANIZED (02)**

1. Organized Biotic Science Congress -2019: National Conference on “Challenges and Innovative Approaches in Agriculture and Allied Sciences Research” on 26<sup>th</sup> & 27<sup>th</sup> July 2019 at Sona College of Arts & Science, Salem. Acted as **Organizing Secretary** of the conference.
2. Organized International Conference on “Challenges in Biological Sciences” (ChaBio2K19) at NKR Government Arts College for Women, Namakkal -637 001, Tamil Nadu, India on 29<sup>th</sup> & 30<sup>th</sup> August 2019. Acted as **Co-organizing Secretary** of the conference.