

## RESUME

### Dr. Khatawkar Dipak Suresh

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### EDUCATION

#### **Kerala Agricultural University**

Ph.D in Agrl. Engg., Farm Power and Machinery. GPA 8.57 03.10.2019

Thesis: Development of a battery-operated electrostatic sprayer.

M.Tech. in Agrl. Engg., Farm Machinery and Power Engineering. GPA 8.68 16.08.2016

Thesis: Development of low-cost electrostatic spray charging system form liquid formulations.

ICAR-ASRB NET 2018

#### **Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli**

B.Tech. in Agrl. Engg. and Tech. GPA 7.71 23.06.2014

#### **Study / Training Abroad**

International Training on Comprehensive and Practical Techniques of Agricultural Machinery at Shandong Academy of Agrl. Machinery Sciences, Jinan; sponsored by Dept. of Int. Co-op., Ministry of Sci. & Tech., People's Republic of China 21.10.2018 to 09.11.2018

### EXPERIENCE (4+ years)

#### **Kerala Agricultural University**

*Chief Minister's Nava Kerala Post-Doctoral Research Fellow* 11.11.2022 till present

Dept. of FMPE, KCAET-Tavanur (09 months)

*Assistant Professor (Contract)* 19.01.2022 to 10.11.2022

Dept. of FMPE, KCAET-Tavanur (10 months)

*Assistant Professor (daily wages)* 13.07.2021 to 12.01.2022

Dept. of FMPE, KCAET-Tavanur (05 months)

*Senior Research Fellow* 02.12.2019 to 10.07.2021

NAHEP-CAAST Project, Dept. of FMPE, KCAET-Tavanur (01 year 09 months)

*Assistant Professor (daily wages)* 16.07.2019 to 07.11.2019

Dept. of FMPE, KCAET-Tavanur (02 months)

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## PUBLICATIONS

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1. Seena R. S., Dhalin D., and **Khatawkar D.S.** 2016. Comparative Evaluation of Electrostatic Sprayer with Powered Mist Blower. *Int. J. Engg. Res. Dev.* 12(08):04-11.
  2. **Khatawkar D. S.**, Ghante G. S. and Patil U. V., 2019. Performance evaluation of micro-sprinklers system under varying spacing and operating pressure. *Multilogic in Science – Seed Sci. & Tech.*, 12(28): 157-162. NAAS 4.51
  3. **Khatawkar D. S.**, James S. and Dhalin D. 2019. Modern trends in farm machinery: Electric drives. *Int. J. Curr. Microbiol. Appl. Sci.*, 8(01): 83-98. NAAS 5.38
  4. **Khatawkar D. S.**, Dhalin. D. and James P. S. 2020. Electrostatic conversion kit for conventional knapsack mist-blower (Development and performance evaluation). *Int. J. Curr. Microbiol. Appl. Sci.*, 9(03): 2227-2242. NAAS 5.38
  5. **Khatawkar D. S.**, Dhalin. D., James P. S. and Seena R. S. 2020. Electrostatic induction spray-charging system (Embedded Electrode) for knapsack mist-blower. *Curr. J. Appl. Sci. and Tech.*, 39(5): 80-91. NAAS 4.71
  6. Toufeeq S., Dhalin D., **Khatawkar D. S.** and Seena R. S. 2020. Effect of tillage methods on CO<sub>2</sub> emission from red loam soil of Kerala. *Int. J. Curr. Microbiol. Appl. Sci.*, 9(04): 2827-2837. NAAS 5.38
  7. **Khatawkar D. S.**, James P. S. and Dhalin D. 2020. Energy self-sufficient farmstead: Design analysis. *Int. J. Curr. Microbiol. Appl. Sci.*, 9(04): 3006-3025. NAAS 5.38
  8. Toufeeq S., Dhalin D., Seena R. S., **Khatawkar D. S.**, Aparna B. and Ameena M. 2020. Soil CO<sub>2</sub> Emission under Different Tillage Practices in Major Soils of Kerala. *Curr. J. Appl. Sci. and Tech.*, 39(11): 1-12. NAAS 5.32
  9. Chandran A. K., James P. S. and **Khatawkar D. S.** 2020. Agro-economic analysis of 4-wheeled riding type rice transplanters. *Green Farming*, Vol. 11 (2 & 3): 232-236. NAAS 4.38
  10. Senayit Alazar Berhane, Bovas J. J. L., **Khatawkar D. S.** and James P. S. 2020. Gender Differences in the Choice of Research Area Selection. *Int. J. Adv. Eng. Res. And Sci. (IJAERS)*. 07(06): 398-407. NAAS 3.18
  11. Aneasha V., Dhalin D., Seena R. S., Reji O. P., and **Khatawkar D. S.** 2020. Carbon Footprint of Electrostatic Sprayer in Comparison with Air Compression Sprayer and Mistblower. *Curr. J. Appl. Sci. and Tech.*, 39(29): 20-29 NAAS 5.32
  12. Athira, P., James P. S., Bovas J. J. L. and **Khatawkar, D. S.** 2020. Design Concepts for the Development of a Semi-autonomous Robotic Platform for Environment Friendly Agriculture. *Int. J. Curr. Microbiol. App. Sci.* 9(11): 2240-2246 NAAS 5.38
  13. Rinju L., Dhalin D., **Khatawkar D. S.**, Jayan P. R., Vidhu K. P., Seena R. S. 2021. Electrostatic Pollen Collector for Tomato Under Greenhouse. *Agricultural Mechanization in Asia (AMA)*, 51(01): 1079-1092. Scopus 0.3  
NAAS 6.14
  14. James P. S., **Khatawkar D. S.**, Bovas J. L., Prasad A. and James A. 2021. A retractable solar dryer to aid self-reliance of homesteads in the post-covid-19 era. *Agricultural Engineering Today, ISAE*, Vol. 45 (2): 1-7 NAAS 4.23
  15. Rinju L., Dhalin D., **Khatawkar D. S.**, Seena R. S., Jayan P.R. and Shivaji K. P. 2022. Effect of Electrostatic Force on Mechanical Pollination in Green House Crops. *Agricultural Mechanization in Asia (AMA)*, 53(01): 5205-5218. Scopus 0.3  
NAAS 6.14
  16. Bovas J. J. L., Udayakumar R., James P. S., Muthiah A., **Khatawkar D. S.** and James A. 2022. Combined and Multifunctional Implements: A Promising Approach for Modern Farm Mechanization. *Biological Forum – An International Journal*. 14(1):1376-1383. NAAS 5.11
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17. Bovas J. J. L., Udayakumar R., James P. S., Muthiah A., **Khatawkar D. S.** and Tedla T.B. 2022. A Prognosticated Analysis of the Development of Mechanisation in Potato Cultivation: Indian Scenario. *Biological Forum – An International Journal*. 14(2): 69-74(2022). NAAS 5.11
18. **Khatawkar D. S.**, James P. S. and Dhalin D. 2021. Role of Electrostatics in Artificial Pollination and Future Agriculture, *Current Science*. Scopus 1.5  
NAAS 7.10
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### BOOKS

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1. Micro-sprinkler Irrigation Systems (Guide for Performance Evaluation). 2019. **Khatawkar D. S.**, Ghante G. S. and Patil U.V. Lambert Academic Publishing, Latvia. ISBN 978-620-0-31099-6.
  2. Low-cost electrostatic spray charging system as an attachment to powered knapsack mist-blower (Design, Development and Performance Evaluation). 2020. **Khatawkar D. S.**, Dhalin D., James P. S., Jayan P.R. and Joe Joe L. B. Glasstree Academic Publishing, USA. ISBN 978-1-5342-9903-0
  3. Fundamentals of Renewable Energy. 2023. Editors – James, P.S. and **Khatawkar D. S.**, Scientific Publishers (India). ISBN 978-96-92590-01-6.
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### TECHNOLOGY AND PROTOTYPE DEVELOPMENT

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1. Low-cost Electrostatic Induction Spray Charging (EISC) system for agricultural formulations as an attachment to powered knapsack sprayer
  2. Development of Battery Powered Backpack-type Air-assisted Electrostatic Induction Sprayer
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### AWARDS AND RECOGNITIONS

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Sl. No.	Name of the Award/ Recognition/Fellowship	Authority	Type of award/Recognition	Year
1.	Chief Minister's Post-doctoral Research Fellowship in the discipline of Agriculture and Ecology (Farm Machinery & Power Engineering)	Kerala State Higher Education Council	State Govt.	2022
2.	Qualified ARS Preliminary and Mains Examinations (2017) & appeared for the interview in the discipline of Farm Machinery & Power (Code No. 51)	ASRB, New Delhi	National	2018-19
3.	CSIR-Senior Research Fellowship (CSIR-SRF-2017) for Ph.D. research, by Council of Scientific and Industrial Research (CSIR), Ministry of Science & Technology, Govt. of India.  File No. 08/654(0002)/2018-EMR-I	CSIR – HRDG, New Delhi	National	2017
4.	All India 2nd Rank (OBC) and 9th Rank (General) in ICAR-AICE-SRF-PGS-2016  Roll No. 269209, Discipline – Farm Machinery and Power Engineering (Code 9.1)	ICAR, New Delhi	National	2016

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**PAPER PRESENTATION AT CONFERENCES**

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Full length Paper presented and Published in the proceedings of the Conference	Name of the organization / Institution	Year	Duration	
			From	To
Khatawkar D. S., James P. S. and Dhalin D. 2018. Electrostatic spraying: Lesser chemical, better efficiency. Proceedings of All India Seminar on Innovative Mechanization for Small and Marginal Farmers Under Rainfed Areas, Thiruvananthapuram, Pp. 56-60.	The Institution of Engineers (India) – Kerala Chapter	2018	25 <sup>th</sup> May	26 <sup>th</sup> May

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**NATIONAL/INTERNATIONAL CONFERENCES/ SEMINARS/ TRAININGS ATTENDED**

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A. International Seminar	i. International Research Workshop on Green Energy for Sustainable Development of Kerala – Exploring Opportunities and Challenges for Transition	MES-Kuttipuram and Asian Institute of Technology (AIT)-Bangkok	2019	22 <sup>nd</sup> Mar	23 <sup>rd</sup> Mar
	ii. International Seminar on Innovations in Sustainable Agriculture and Food Processing	Renewable Energy Centre, Mitradham, Kochi, Kerala.	2017	4 <sup>th</sup> Nov	-
B. National Seminar	i. One Day National Workshop on Research Publishing and Plagiarism Control	Kerala Agricultural University	2020	3 <sup>rd</sup> Mar	-
	ii. All India Seminar on Innovative Mechanization for Small and Marginal Farmers Under Rainfed Areas	The Institution of Engineers (India), Kerala Chapter	2018	25 <sup>th</sup> May	26 <sup>th</sup> May
	iii. One Day Awareness Workshop on IP Protection & Technology Commercialization	Centre for IP Protection - Kerala Agricultural University	2015	16 <sup>th</sup> Dec	-
	iv. One Day Workshop on Research Publishing and Plagiarism	Library Information System, Kerala Agricultural University	2015	4 <sup>th</sup> Dec	-
	v. AGRI-PROSPECTUS-2013 - National Seminar on Emerging Careers in Agribusiness	Industry Institution Partnership Cell (IIPC) and Mitcon Institute of Management, Pune	2013	9 <sup>th</sup> Feb	-
C. National Training	i. One-month summer training course on Tractor and Agricultural Machinery	Northern Region Farm Machinery Training and Testing Institute, Hissar (Haryana)	2012	4 <sup>th</sup> June	29 <sup>th</sup> June

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	ii. One-month summer training on Survey, Design, Installation, Operation and Maintenance of Micro Irrigation Systems	Jain Irrigation Systems Ltd., Jalgaon (Maharashtra)	2013	1 <sup>st</sup> June	30 <sup>th</sup> June
	iii. Four month In-Plant Experiential Training Program at Jain Irrigation Systems Ltd., Jalgaon (Maharashtra)	Jain Irrigation Systems Ltd., Jalgaon (Maharashtra)	2014	1 <sup>st</sup> Jan	30 <sup>th</sup> Apr
	iv. Three week “Industrial Training on Low and Higher Horsepower Tractor Service and Maintenance with Matching Implements	New Holland Fiat India Pvt. Ltd., Greater Noida (U.P.)	2015	3 <sup>rd</sup> Aug	24 <sup>th</sup> Aug
D. International Training	International Training on Comprehensive and Practical Techniques of Agricultural Machinery	Dept. of Int. Co-op., the Ministry of Sci. & Tech., People’s Republic of China org. by Shandong Academy of Agrl. Machinery Sciences, Jinan (PRC).	2018	21 <sup>st</sup> Oct	9 <sup>th</sup> Nov
E. AICTE FDPs	i. Artificial Intelligence	North Eastern Regional Institute of Science & Technology, Nirjuli – Arunachal Pradesh	2020	14 <sup>th</sup> Sept	18 <sup>th</sup> Sept
	ii. Emerging Technologies (IoT, Robotics & UAV)	Centre for Development of Advanced Computing (C-DAC), Mohali – Punjab	2020	12 <sup>th</sup> Oct	16 <sup>th</sup> Oct
	iii. Electric Vehicles	University College of Engineering, Villupuram – Tamil Nadu	2020	30 <sup>th</sup> Nov	04 <sup>th</sup> Nov
	iv. Introduction to Discrete event modelling and Simulation	Visvesvaraya National Institute of Technology, Nagpur, Maharashtra	2021	26 <sup>th</sup> July	30 <sup>th</sup> July
	v. Machine Learning Applications for Autonomous Driving	KLE Technological University, Hubli, Karnataka	2022	24 <sup>th</sup> Jan	28 <sup>th</sup> Jan
F. AICTE STTP	i. Recent Advances in Industrial Robotics & Applications	Dept. of Electrical Engg., SRES’s Shree Ramchandra College of Engg., Pune – sponsored by AICTE’s Quality Improvement Schemes (AQIS) and Short-Term Training Programme (STTP)	2020	07 <sup>th</sup> Dec	12 <sup>th</sup> Dec

	ii. Power System Modelling and Simulations	Dept. of Electrical Engg., Arya College of Engg. & Info. Tech., Jaipur, Rajasthan, sponsored by AICTE	2020	14 <sup>th</sup> Dec	19 <sup>th</sup> Dec
	iii. Applications of Computer Aided Engineering in Agriculture	Vasantao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra	2021	7 <sup>th</sup> June	3 <sup>rd</sup> July
	iv. Advanced Engineering Optimization through Artificial Intelligence	North Eastern Regional Institute of Science & Technology, Nirjuli, Arunachal Pradesh	2021	12 <sup>th</sup> July	17 <sup>th</sup> July
G. Corporate FDP	Virtual CNC Machine Simulation Software	IndiaSoft Pvt. Ltd., Pune	2020	8 <sup>th</sup> Aug	
H. Webinars	i. Broadening Horizons – Unconventional Career Opportunities	ICAR-NAHEP-CAAST Kerala Agricultural University's Student-Corporate Interaction Programme	2020	8 <sup>th</sup> Sept	11 <sup>th</sup> Sept
	ii. Innovation and Incubation to Connect Modern Science with Farmers	ICAR-National Academy of Agri. Research Manag. (NAARM), Hyderabad	2020	3 <sup>rd</sup> Oct	-
	iii. Renewable Energy Projects - Management and Challenges	The Institution of Engineers (India) under the aegis of Electrical Engg. Division	2020	3 <sup>rd</sup> Nov	-
	iv. Krishi Gyan Sindhu	Centre for Agriculture and Bioscience International (CABI) and EBSCO Information Services Inc.	2020	24 <sup>th</sup> Nov	-
	v. Agriculture Research through Knowledge Discovery	EBSCO Information Services Inc.	2021	23 <sup>rd</sup> Feb	-

### DECLARATION

I certify that the information furnished above is true and correct to the best of my knowledge and belief.

  
Khatawkar Dipak Suresh

Tavanur

4<sup>th</sup> November, 2023