CURRICULUM VITAE

Dr. SUCHITRA RAKESH, MSc (Agri. Microbiol.), Ph.D., PDF
Assistant Professor
Biofuel Research Laboratory
Department of Microbiology
School of Life Sciences
Central University of Tamil Nadu
Neelakudy Campus, Thiruvarur 610 005, India
e-Mail: suchitrar@cutn.ac.in
suchi28rakesh@gmail.com

Academic Qualification

Institution and Location	Degree	Year (s)	Field of Study
University of Agriculture Sciences, Bangalore, India	B.Sc	2003-2007	Agriculture
Tamil Nadu Agricultural University, Coimbatore, India	M.Sc	2007-2009	Agricultural Microbiology
Tamil Nadu Agricultural University, Coimbatore, India	Ph.D	2009-2012	Agricultural Microbiology
Indian Agricultural Research Institute, New Delhi, India	Post-Doctoral Fellow	2013	Microbial biofuels

Academic / Research positions

2017 - Current	Assistant Professor, Department of Microbiology, School of Life Sciences, CUTN, Thiruvarur, India
2018 – Current	Internal Expert, Board of Studies, Department of Microbiology, CUTN, Thiruvarur, India
2016-2017	Assistant Professor, Roever Agriculture College, TNAU affiliated, Perambalur, India
2013	Post-Doctoral Fellow, IARI, New Delhi, India

Awards / Honors

Name of Award	**Awarding Agency**	**Year**
Life member	Association of Microbiologists on India	2009
Fellowship under Students Project Scheme	Tamil Nadu State Council of Science and Technology, Chennai	2009
Fellowship for presuming Ph.D	University Grants Commission, New Delhi	2010
National Eligibility Test	ICAR, New Delhi	2011
Awarded best paper and conferred Bharat Ratna Dr. A.P.J. Abdul Kalam award	IIT Madras	2011
Awarded prof. Dr. S. kannaiyan & Dr. C. Surendran award for the best Ph.D student in Agricultural Microbiology	Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu	2012
Awarded Dr. APJ Abdul Kalam Award for Scientific Excellence	Marina Labs, Chennai, Tamil Nadu	2017
Life member	Trends in Biosciences Journal, Bhopal	2017
Life member	Advances in Life Sciences Journal, Bhopal	2017

Publications

Author(s)	Title	Name of Journal	Volume	Page	Year
Bobita Ray, Tharunkumar Jayakumar and **Suchitra Rakesh**	Comparative analysis of lipid content in mono and c0-culture microalgae for potential biodiesel production using diverse cell disruption techniques https://doi.org/10.1007/s13399-023-04482-5	Biomass Conversion and Biorefinery	14 June Published 2023		
Tharunkumar Jayakumar and **Suchitra Rakesh**	A study exploring the effects of cell disruption techniques on lipid recovery in co-cultivated microalgae and oleaginous yeast https://doi.org/10.1007/s12155-022-10557-4	BioEnergy Research	December Published 2022		
Jothibasu K, Muiraj I, Jayakumar T, Ray B, Dhar DW, Karthikeyan S and **Rakesh S**	Impact of microalgal cell wall biology on downstream processing and nutrient removal for fuels and value-added products https://doi.org/10.1016/j.bej.2022.108642	Biochemical Engineering Journal	187	108642	2022
Ray B, **Rakesh S**	Phycoremediation of aquaculture wastewater and algal lipid extraction for fuel conversion DOI: 10.36462/H.BioSci.202201	Highlights in Bioscience	5	1-9	2022
Karuppaiyan Jothibasu, DW Dhar, **Suchitra Rakesh**	Recent developments in microalgal genome editing for enhancing lipid accumulation and biofuel recovery https://doi.org/10.1016/j.biombioe.2021.106093	Biomass and Bioenergy	150	106093	2021
Suchitra Rakesh, Jayakumar TharunKumar, Bhavya Sri, Karuppaiyan Jothibasu, Subburamu Karthikeyan	Sustainable Cost-Effective Microalgae Harvesting Strategies for the Production of Biofuel and Oleochemicals DOI:10.36462/H.BioSci.20209	Highlights in BioScience	3	1-8	2020
S Arathi, J Tharun Kumar, K Jothibasu, S Karthikeyan, **R Suchitra**	Qualitative and quantitative estimation of algal lipids for biofuel production DOI: 10.22271/chemi.2020.v8.i4ab.10003	International Journal of Chemical Studies	8	2451-2459	2020
Suchitra Rakesh, Subburamu Karthikeyan and Dolly Wattal Dhar	Bioprospecting of indigenously isolated microalgae for biodiesel production DOI No. 10.5958/2395-146X.2019.00084.X	Agricultural Research Journal	56	541-546	2019
M. Sathiyadevi, **Suchitra Rakesh*,** N ArunKumar and J. Deepika	Antimicrobial activity of panchagavya and its effect on seed germination	Journal of Farm Sciences	32	358-360	2019
Suchitra Rakesh and Subburamu Karthikeyan	Economic feasibility of microalgal biodiesel production via indigenously designed tubular photobioreactor	Journal of Farm Sciences	32	186-190	2019
Suchitra Rakesh, Subburamu Karthikeyan and Dolly WattalDhar	Influence of thermal behaviour and nutrient sources on microalgal biomass for fuel use	International Journal of Current Agricultural Sciences	9	401-406	2019

Suchitra Rakesh and Subburamu Karthikeyan	Co-cultivation of microalgae with oleaginous yeast for economical biofuel production DOI: 10.13140/RG.2.2.10506.41928	Journal of Farm Sciences	32	125-130	2019
Suchitra Rakesh, S. Poonguzhali, and K. Jothibasu	Cultivation, harvesting and lipid extraction of microalgae for biodiesel production	Trends in Biosciences	10	6418-6423	2017
Suchitra Rakesh, S. Poonguzhali, B. Saranya, and K. Jothibasu	Comparative analyses of microalgal lipid yield in different cultivation systems https://doi.org/10.20546/ijcmas.2017.609.396	International Journal of Current Microbiology and Applied Sciences	6	3218-3225	2017
Suchitra Rakesh, S. Poonguzhali, B. Saranya, S. Suguna and K. Jothibasu	Effect of panchagavya on growth and yield of *Abelmoschus esculentus* cv. Arka Anamika https://doi.org/10.20546/ijcmas.2017.609.380	International Journal of Current Microbiology and Applied Sciences	6	3090-3097	2017
Suchitra Rakesh, Dolly W. Dhar, Radha Prasanna, Anil K. Saxena, Supradip Saha, Madhulika Shukla and Khushbu Sharma	Cell disruption methods for improving lipid extraction efficiency in unicellular microalgae DOI: 10.1002/elsc.201400222	Engineering in life Sciences	15	443-447	2015
Suchitra Rakesh, Sudhir Saxena, Dolly W. Dhar, Radha Prasanna and Anil K. Saxena	Comparative evaluation of inorganic and organic amendments for their flocculation efficiency of selected microalgae DOI: 10.1007/s10811-013-0114-4	Journal of Applied Phycology	26	399-406	2014
Suchitra, R., K. Kumutha and D. Balachandar	Morpho-typing and molecular diversity of AM fungi in sub-tropical soils of Coimbatore region, Tamil Nadu, India https://doi.org/10.1007/s12088-011-0206-2	Indian Journal of Microbiology	52	145-152	2012

Book / Chapters/ General articles etc

Title/Chapter	**Author's Name**	**Publisher**	**Year of**
Book - Bioprospecting of algae Chapter – Cultivation, harvesting and lipid extraction of microalgae for biodiesel production	Dolly Wattal Dhar, **Suchitra Rakesh,** Madhulika Shukla and Radha Prasanna	Society for Plant Research **ISBN 987-81-937106-0-9**	2018
Book – Plant Microbe interface Chapter – Anthosphere microbiome and their associated interactions at the aromatic interface https://doi.org/10.1007/978-3-030-19831-2_14	Nagarathinam Arunkumar, **Suchitra Rakesh,** Kaushik Rajaram, Narayanasamy Ravi Kumar, Siva Sundara Kumar Durairajan	Springer Verlag, Germany **ISBN 978-3-030-19830-5**	2019
Book – Agricultural Microbiology at a glance	K. Jothibasu, **Suchitra Rakesh**	Kalyani Publishers **ISBN 978-93-5359-951-5**	2019
Book – Plant Microbe Symbiosis	**Suchitra Rakesh,** Kaushik Rajaram, N. Arunkumar and Siva Sundara Kumar	Springer Verlag, Germany	2020

Chapter – Contribution of beneficial fungi for maintaining sustainable plant growth and soil fertility https://doi.org/10.1007/978-3-030-36248-5_6		**ISBN 978-3-030-36247-8**	
Book – Plant Microbiome Paradigm Chapter – Plant growth promoting potentials of endophytic fungi for the management of agriculture crops and grasses https://doi.org/10.1007/978-3-030-50395-6_6	Siva Sundara Kumar Durairajan, **Suchitra Rakesh**, Barkavi Durairajan, Kaushik Rajaram, Nagarathinam Arunkumar, and Rajesh Jeewon	Springer Nature Switzerland AG	2020
Book – Applied Algal Biotechnology Chapter – Microalgae and cyanobacteria: Role and applications in agriculture	Geetha Thanuja Kalyanasundaram , Anupriya Ramasamy **, Suchitra Rakesh** and Karthikeyan Subburamu	Nova Science publishers, New York	2020
Book – Sustainable Bioprocessing for a clean and green environment Chapter – Pretreatment of paddy straw for sustainable bioethanol production https://doi.org/10.1201/9781003035398	**Suchitra Rakesh,** Karthikeyan Subburamu, Ramesh Desikan and N. Arunkumar	CRC Press, Taylor & Francis Group, Boca Raton London New York	2021
Book – Microbial Biotechnology for Renewable and Sustainable Energy Chapter – Integrated Waste Biorefinery for Biofuels and Biochemicals https://doi.org/10.1007/978-981-16-3852-7_1	Thanuja KG, Ramesh D, Iniyakumar M, **Rakesh S,** Shivakumar KM, Karthikeyan S	Springer Nature Singapore ISBN 978-981-16-3852-7	2022
Book – Microalgae: next generation feedstock for biorefineries – cultivation and refining processes Chapter – Advances on harvesting and extraction systems in microalgal biorefinery https://doi.org/10.1007/978-981-19-0793-7_10	Ray B, **Rakesh S**	Springer Nature Singapore ISBN 978-981-19-0792-0	2022
Book – Microalgae: Next generation feedstock for biorefineries – contemporary technologies and future outlook Chapter – Overview on advanced microalgae based sustainable biofuel generation and its life cycle assessment https://doi.org/10.1007/978-981-19-0680-0_3	Iniyakumar M, Ramanan V, Ramalakshmi, Ray B, Tharunkumar J, Jothibasu K, **Rakesh S**	Springer Nature Singapore ISBN 978-981-19-0792-0	2022
Book – Microalgae: Next generation feedstock for biorefineries – contemporary technologies and future outlook Chapter – Microalgae cell wall disruption and biocomponents fractionation for fuel conversion https://doi.org/10.1007/978-981-19-0680-0_4	Tharunkumar J, Jothibasu K, Iniyakumar M, **Rakesh S**	Springer Nature Singapore ISBN 978-981-19-0680-0	2022

Book – Cyanobacteria – recent advances and new perspectives Chapter – Thermochemical conversion of algal based biorefinery for biofuel DOI: http://dx.doi.org/10.5772/intechopen.106357	Arosha V, Ray B, **Rakesh S**	IntechOpen ISBN 978-1-80356-462-3	2022
Book – Sewage Management Chapter – Phyco-remediation of sewage wastewater by microalgae DOI: http://dx.doi.org/10.5772/intechopen.109257	Radhakrishnan Vandana and Suchitra Rakesh	IntechOpen 978-1- 83768- 536-3 2023	2023
Book – Algae Materials: Applications Benefitting Health Chapter – Algae-derived materials and pathways for applications in the automobile industries https://doi.org/10.1016/B978-0-443-18816-9.00022-8	Ramesh Desikan, Suchitra Rakesh and Karthikeyan Subburamu	Elsevier 978-0- 443- 18816-9	2023

Supervision (PhD)

Name & registration No.	Title of thesis/ Dissertation	Duration	Status
Ms. Bobita Ray **R192003**	Sustainable Biorefinery with Microalgal based Microbial Consortia for Bioplastic and Biocrude Production with Zero Waste Discharge	**2019 – Till date**	**On-Going**
Mr. J. TharunKumar **R202001**	Co-cultivation of microalgae with oleaginous yeast for enhanced biofuel production	**2021 – till date**	**On-Going**

Supervision (PG)

Name & Registration No.	Title of thesis/ Dissertation	Duration	Status
Vandana RJ Reg. No. 212030	Phycoremediation of rice mill wastewater and pyrolysis characteristics of generated biomass using thermogravimetric analysis	2022-23	Awarded
Anaswara K Reg. No. 212002	Exploring the potential of rice mill wastewater for microalgae cultivation and bioethanol production: A comprehensive analysis of growth, biomass and biochemical profile	2022-23	Awarded
Sandu Sai Ranjith Reg. No. 212022	Nutrient removal efficiency of microalgal consortia from rice mill wastewater and biofuel production	2022-23	Awarded
Rubika S Reg. No. P202028	Qualitative and quantitative estimation of lipid for enhanced biodiesel recovery from microalgae	2021-22	Awarded
Arosha V K Reg. No. P202009	Enhanced bioethanol production from agricultural waste	2021-22	Awarded

Poli Monika Reg. No. P192022	Microalgae under stress conditions to produce high lipid content	2020-21	Awarded
Jangam Niharika Arjun Reg. No. P192013	Bioethanol production from different agricultural wastes	2020-21	Awarded
Hudha Kauser M P Reg. No. P192012	Assessment of oil degrading efficiency of Bacillus subtilis and B. licheniformis isolated from the oil contaminated soil of ONGC Karaikal, Puducherry	2020-21	Awarded
Krishendru Rej Reg. No. P182012	Bioethanol production from agricultural waste	2019-20	Awarded
Arathi Sreeniketham Reg. No. P182005	Qualitative and quantitative lipid estimation of algal lipid	2019-20	Awarded
Gudelli Bhavya Sri Reg. No. P182008	Cost efficient harvesting of microalgae *via* auto-flocculation	2019-20	Awarded
Manoranjitham N Reg. No. 11402018	Physico-chemical and biological assessment of drinking water quality of Thiruvarur district villages, Tamil Nadu, India	2018-19	Awarded
T. Kalaiselvi Reg. No. 1140326	Comparison of electricity production, physicochemical properties and microbial population of different samples in microbial fuel cells	2018-19	Awarded
Ms. M. Sathydevi Reg. No. 1140319	Effect of Panchagavya in disease control and plant growth promotion	2018-19	Awarded
Ms. Fathima Risa Reg. No. P172008	Pre-treatment of paddy straw for maximizing bioethanol yield	2018-19	Awarded
Ms. Deepthi Reg. No. P172004	Isolation and characterization of oil degrading bacteria from Petroleum refinery soils of Karaikkal District in the Union Territory of Pondicherry	2018-19	Awarded

Research Project Completed:

Sr. No.	Title of theProject (More than 10lakhs)	Names of PI and Co-PI	FundingAgency	Grant Sanctioned	Duration	
					From	To
1.	Co-cultivation of microalgae with oleaginous yeast to enhance lipid yield for biofuel production	Dr. Suchitra Rakesh (PI)	DST_SERB (EEQ/2018/001463)	Rs. 34,56,072/-	21/05/2019	20/05/2022

Orientation/ Refresher courses attended

1. Faculty Development programme on 8th September, 2018, Organised by the Central University of Tamil Nadu, Thiruvarur
2. Science Leadership Workshop from 22/06/2020 to 28/06/2020, Organised by Central University of Punjab, Bathinda, India
3. Massive Open Online Course (MOOC) on Designing E-Learning Content from 01/07/2020 to 31/07/2020 by ICAR, National Academy of Agricultural Research Management
4. Short-Term Course in Research Methodology from 12/08/2020 to 14/08/2020 by UGC- HRDC, Bharathidasan University, Tiruchirappalli, Tamil Nadu
5. Faculty Induction Programme organized from 31/08/2020 to 29/09/2020 by UGC- HRDC, Osmania University, Hyderabad, Telangana

6. Faculty Development Programme on “Measures to Mitigate Climate Change” from 12/10/2020 to 16/10/2020 by Central University of Tamil Nadu, Thiruvarur
7. Inter-disciplinary Refresher Course in Research Methodology and Data Analysis from 17/05/2021 to 31/05/2021 by Teaching Learning Centre, Ramanujan College, University of Delhi, Ministry of Education, PMMMNMTT
8. Short-Term Course in E-Learning & E-Content Development from 05/01/2022 to 11/01/2022 by UGC- HRDC, Bharathidasan University, Tiruchirappalli, Tamil Nadu
9. Refresher Course in Environment & Sustainable Development (Multidisciplinary) from 02/02/2022 to 15/02/2022 by UGC- HRDC, Bharathidasan University, Tiruchirappalli, Tamil Nadu
10. Refresher Course in Inclusive Education (Multidisciplinary) from 07/02/2023 to 20/02/2023 by UGC- HRDC, Bharathidasan University, Tiruchirappalli, Tamil Nadu

Invited talks

1. Integrated Bacterial-Microalgal Approach for Wastewater Treatment, KSCSTE Centre for Water Resource Development and Management, Kerala, 6th December 2022
2. Biofuel Production, Kumaraguru Institute of Agriculture, Coimbatore, Tamil Nadu, 9th May 2022
3. Ethics in Publication, National College (Autonomous), Tiruchirapalli, Tamil Nadu 4th January 2022
4. Biofuel and Biorefinery, National College (Autonomous), Tiruchirapalli, Tamil Nadu, 24th November 2021

Conferences

1. Presented Paper in the “International Conference on Biotechnological Solutions for Environmental Sustainability” held during October 21-23, 2009, Organized by the School of Bio Sciences and Technology, VIT University, Vellore, Tamil Nadu
2. Presented Paper in the “Exploring the Secrets of Bio-fuel An international Summit” organised by Dept. of Plant Biology and Biotechnology, Presidency College (Autonomous) Chennai and IIT Chennai, India from 14/07/2011 to 16/07/2011
3. Presented Poster on “Harvesting of Microalgal Biomass and Lipid Extraction through optimized protocols” in International Symposium on FDMIR-2013 from 17029 November 2013, Maharshi Dayanand University, Rohtak – 124001, Haryana, India
4. Presented Paper in International Conference on “Innovative and Emerging Trends in Botany” organized by Department of Botany, Alagappa University, Karaikudi on 6-7th November, 2019
5. Presented Paper in Wonders of the Small 2.0 – National Conference on Recent Trends in Microbiome Research from 20-21 March 2019 by Department of Microbiology, Pondicherry University
6. Presented Paper in 11th NABS National Conference on “Climate Change Driven Challenges on Indian Biodiversity: innovative solutions for sustainable development” from 25-27 September, 2019 at Pondicherry University, Puducherry, India
7. Presented Poster on “Lipid Estimation of Microalgae using Nile Red” in the International Conference on Advances in Agricultural and food Sciences to face the Challenges to Environment and Biosecurity organized during 16-20 January, 2021 by School of Agricultural Sciences, Sharda University, Greater Noida, India
8. Presented Paper in first NABS International Conference on the Life Sciences: Contemporary Approaches in Biological Science for Food, Health, Nutrition Security and Conservation of Biodiversity from August 26 to 28 2021 by Annamalai University, Annamalai Nagar, Tamil Nadu, India (Best Poster Award – III position)
9. Presented Paper in International Conference on Future Challenges of Microbes in Environment -2023 organized by PG and Research Department of Microbiology, Jamal Mohamad College (Autonomous), Tiruchirappalli, in association with Microbiologists Society, India held on 23the February 2023 (Second Place - Award)

Declaration

I hereby declare that whatever has been stated above is true to the best of my knowledge, correct and nothing material has been concealed there from.

Place: Thiruvarur

Date: 04/08/2023

sd/-

(Dr. SUCHITRA RAKESH)