

Name : Dr. S. KarthikSundaram

Designation : Assistant Professor

Department : Microbiology

Qualification : M.Sc., Ph.D.

Experience : Teaching: 7 Years 8 Months Research: 8 Years

Area of Specialization(s) : Bioremediation, Industrial Effluent Management

Email (Official ID) : karthiksundaram@drngpasc.ac.in



Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D.	Microbiology	PSG College of Arts & Science, Coimbatore	2014
M. Sc	Microbiology	Thiagarajar College, Madurai	2009
B. Sc	Industrial Microbiology	Thiagarajar College, Madurai	2005

Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University / Agency Name	Year
Online Certificate	Genetic Engineering: Theory and Application	NPTEL	2019

Projects – Completed

Project Title	Agency	Amount	Duration
Enhanced Alternative Biotreatment of Textile Effluents to CETPs through Nanostructure based Comprehensive Treatment System (Co-investigator)	State Science & Technology Section of the Department of Science & Technology	1,13,00,000	<i>3 Years</i>
Bioremediation of Preprocessed Plastic Wastes through Microbial	Tamil Nadu State Council for Science and Technology	7500	<i>6 Months</i>

Consortium			
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Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
Ph. D.	-	2

Research Publications (Indexed)

International

1. N.K. Asha Devi, R. Rajendran and KarthikSundaram. S, **Isolation and characterization of biologically active compounds from marine bacteria of Bay of Bengal**, Natural product radiance. Vol 2., 1, pp. 59-64, March 2011 (Indexed in UGC)
2. R.Rajendran, S. KarthikSundaram and K. Uma Maheswari, **Aerobic Biodecolorization of Mixture of Azo Dye Containing Textile Effluent Using Adapted Microbial Strains**, *Journal of Environmental Science and Technology*, Vol. 4., 6, 568-578, 2011 (Indexed in UGC)
3. R. Rajendran, S. KarthikSundaram, R. Radhai and P. Rajapriya, **Comparison, Optimization and Bioscouring of Cotton Fabrics Using Pectinase Enzyme with Conventional Scouring Process**, *Pakistan Journal of Biological Sciences*, Vol. 14., 9, 519-525, 2011 (Indexed in UGC)
4. R. Rajendran, S. KarthikSundaram, B.V. Sridevi, P. Prabhavathi and V. Gopi, **Comparative Analysis of Bioremediation Potential of Adapted and Non-Adapted Fungi on Azo Dye Containing Textile Effluent**, *Pakistan Journal of Biological Sciences*, Vol. 14., 11, 610-618, 2011 (Indexed in UGC)
5. R. Rajendran, S. KarthikSundaram, B.V. Sridevi, P. Prabhavathi and V. Gopi, **Biodetoxification of Azo Dye Containing Textile Effluent through Adapted Fungal Strains**, *Journal of Environmental Science and Technology*, Vol. 5., 1, 29-41, 2011 (Indexed in UGC)
6. K. Jeyachitra, A. Paneerselvam, R. Rajendran, M. Mahalaxmi and S. KarthikSundaram, **Physico-Chemical and Biological Factors In The Distribution Of Cyanobacterial Population In Three Different Sampling Sites Of South India**, *African Journal of Microbiological Research*, Vol. 7., 25, pp. 3240-3247, 2013 (Indexed in SCOPUS and UGC).
7. R.Rajendran, P. Prabhavathi, S. KarthikSundaram, S.Pattabi, S.Dineshkumar, P. Santhanam, **Enhanced Bioremediation Efficiency of Denim Industrial Effluent using Bacterial Bioflimon to Polyurethane Matrix (Review)**, *Applied Biochemistry and Microbiology*, Vol. 50., 6, 554-562, 2014 (Indexed in SCOPUS).

8. Jayanthi, V, R. Geetha, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, S. Dinesh Kumar and P. Santhanam, **Phytoremediation of dye contaminated soil by *Leucaenaleucocephala* (subabul) seed and growth assessment of *Vignaradiata* in the remediated soil**, *Saudi Journal of Biological Sciences*, 21, 324-333, 2013 (Indexed in SCOPUS).
9. Rajendran, R., P. Prabhavathi., S. KarthikSundaram., S. Pattabi., S. Dinesh Kumar and P. Santhanam, **Biodecolorization and Bioremediation of Denim Industrial Wastewater by Adapted Bacterial Consortium Immobilized on Inert Polyurethane Foam (PUF) Matrix: A First Approach with Biobarrier Model**, *Polish Journal of Microbiology*, Vol. 64, No 4, 329–338, December 2013 (Indexed in SCOPUS)
10. Rajendran R, Kanimozhi B, Prabhavathi P, Dinesh Kumar S, Santhanam P, Abirami M, KarthikSundaram S and Manikandan A, **A Method of Central Composite Design (CCD) For Optimization of Biodiesel Production from *Chlorella vulgaris***, *Petroleum & Environmental Biotechnology*, Volume 6, Issue 3, pp 1-6, 2015 (Indexed in SCOPUS).
11. Rajendran. R., Prabhavathi. P., KarthikSundaram. S., Dinesh Kumar. S., Santhanam P., Premnath. D., Ponmari. G., Manikandan. A., and My-Kyung Kim, **Molecular Docking Studies of Potent Adsorbed Receptor of Thrh Gene: A New Target for Biodegradation of Indigo Dye**, *Journal of Bioremediation & Biodegradation*, Volume 7, Issue 4 Pp 7, 2016 (Indexed in SCOPUS)
12. Rajalakshmi V, KarthikSundaram S, Poornima D, Rajendran R, **Biotransformation of C5 and C6 Sugars of Cellulosic Cotton Wastes to Bioethanol through Physical and Enzymatic Modes**, *Applied Ecology And Environmental Research*, Vol. 14., Issue 2, pp 411-420, 2016 (Indexed in SCOPUS)
13. R. Rajendran, S. KarthikSundaram, P. Prabhavathi, B.V. Sridevi, S. Dinesh Kumar and P. Santhanam, **Bioremediation of azo dye containing textile effluent using adapted bacterial strains under subsequent microaerophilic - Aerobic conditions**, *Journal of Scientific & Industrial Research*, Vol 75. Pp 124-130, 2016 (Indexed in SCOPUS)
14. PraveenaRajan, MenakaRangasamy, S. KarthikSundaram (2020). **Bioremediation of Preprocessed Plastic Wastes through Microbial Consortium**. *Journal of Advanced Scientific Research*. ISSN 0976-9595. 11(4): 106-113 (Indexed in UGC Care).
15. C. Ajitha, A. Srinidhi, S. KarthikSundaram (2021). **In vitro Evaluation of Fungicidal Activity of Bromelalain from *Ananascomosus* against Fungal Phytopathogens Infecting *Musa Paradisiaca***, *Journal of Advanced Scientific Research*. ISSN 0976-9595. Accepted for Publication. (Indexed in UGC Care).

Presentations in Conference

1. **Microarray**, Intercollegiate Students seminar, Department of Zoology and Microbiology, Thiagarajar College, Madurai 24-Sep-05.
2. **Bacterial Bioinformatics**, Intercollegiate Students seminar, Department of Zoology and Microbiology, Thiagarajar College, Madurai, 24-Sep-07.
3. **Biodegradation and Decolourization potential of Mixed Microbial Consortia In Textile Effluents Containing Azo Dye Mixture Under Static And Shaking Conditions**, International Conference on Environment pollution, Water Conservation and Health, Department of Zoology, Bangalore University, Bangalore, 29-Jul 10 to 31-Jul-10.
4. **Aerobic Reduction of Azo Dye Mixtures Containing Textile Effluents Using Adapted Microbes in Combinations**, National conference on Next Generation Microbiologists-Challenges & Opportunities, D.G.Vaishnav College, Chennai, 28-Sep-10 and 29-Sep-10.
5. **Synergistic Effect of Microaerophilic and Aerophilic Conditions on the Biodegradation of Azo Dye Containing Textile Effluents Using Microbial Consortium in a Packed Bed Reactor**, National Symposium on Waste Management: Experiences and Strategies, organized by the Department of Agricultural Microbiology, College of Horticulture, Kerala Agricultural University, Thrissur, 5-Jan-11 to 7-Jan-11.
6. **Aerobic Biodecolorization of Mixture of Azo dye Containing Textile Effluent Using Adapted Microbial Strains**, International Conference on Microbes in Wastewater and Waste Treatment, Bioremediation and Energy Production organized by the International water association, Birla Institute of Technology and Science, Goa Campus, 23-Jan-11 to 27-Jan-11.
7. **Strategies in the Microbial Bioremediation of Textile Effluent – Free Cells, Immobilized Cells and Remotion**, International Conference on Advanced Materials organized by the Department of Physics, PSG College of Technology, Coimbatore, 12-Dec-11 to 16-Dec-11.

Participation in Conference

International

1. International conference on Food Microbiology and Food Safety – Upcoming Changes, Technologies & Emerging Risks, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai, 11-Oct-16.

National

1. “Confluence of Research and Ethics in Biological Sciences – A Scenario on the Emerging Trends” (NCBS – 2013), PSG College of Arts & Science, Coimbatore, 14Mar-13 to 25-Mar-13.
2. National Level Exhibition on Ideas, Inventions, and Innovations a concurrent event of GRD centenary year celebrations, PSG College of Technology, at the CODISSIA Trade fair complex, Coimbatore, 27-Sep-13 to 29-Sep-13.
3. “Contemporary Molecular Techniques and their Potential Applications in Current Applied Biology”, Research Department of Microbiology, M. R. Government Arts College, Mannargudi, on 30-Jan-15.
4. Innovate India 2015 conference on “Make in India: Opportunities through Innovation”, National Research Development Corporation, New Delhi, in association with the PSG College of Technology, Coimbatore, 25-Feb-15 and 26-Feb-15.

Participation in Seminars

1. Intercollegiate Students seminar, Department of Zoology and Microbiology, Thiagarajar College, Madurai 24-Sep-05.
2. Intercollegiate Students seminar, Department of Zoology and Microbiology, Thiagarajar College, Madurai, 24-Sep-07.
3. “Recent Trends in Microbiology”, Department of Microbiology, PSG College of Arts & Science, Coimbatore, 21-Jan-16.

Participation in Workshop

1. GC & HPLC at the Textiles Committee, Ministry of Textiles, Govt. of India, Karur, 20 Sep 07.
2. Conservation of medical plants, Cholayil (MEDIMIX) groups, Chennai, 12-Feb-10 to 14-Feb-10.
3. Molecular Techniques, Aristogene Biosciences, Bangalore held at the Department of Microbiology, PSG College of Arts & Science, 27-Mar-12 and 28-Mar-12.
4. Outcome Based Education, Internal Quality Assurance Cell, PSG College of Arts & Science, Coimbatore, 26-Aug-16.

Participation in Faculty Development Programme

1. Outcome Based Education, Internal Quality Assurance Cell, PSG College of Arts & Science, Coimbatore, 26-Aug-16.
2. Current Trends in Curriculum Design & Development, Internal Quality Assurance Cell, PSG College of Arts & Science, Coimbatore, 23-Jan-18.

3. ICT Advancement and Innovations in Educational Transactions, Internal Quality Assurance Cell, PSG College of Arts & Science, Coimbatore, 5-Mar-2018.
4. NAAC Revised Accreditation Framework and OBE Assessment Methodology, Faculty Development Cell & IQAC, Dr. N.G.P. Arts and Science, College, Coimbatore, 27-May-19 to 2-Jun-19.
5. Genetic Engineering: Theory and Application, NPTEL-AICTE, Online FDP Course, Jul-19 to Sep-2019.
6. Online faculty development programme on Dhrona – The Art of Teaching and Learning for the Nxt Gen, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai, 9-Apr-20 to 11-Apr-20.
7. One Week FDP on Quality Initiatives in Higher Education, Dr. N. G. P. Arts and Science College, Coimbatore, Sri Ramakrishna College of Arts and Science, Coimbatore, Gobi Arts & Science College, Gobichettipalayam, Vellalar College for Women, Erode, 13-Apr-20 to 20-Apr-20.

Conference / Seminar / Workshop Organized

1. Committee Member, DST-SRB Sponsored National Seminar on Computing Platforms for Biological Big Data Analytics, Dr. N.G.P. Arts and Science College, Coimbatore, 05-Feb-20 and 6-Feb-20.
2. Committee Member, National Symposium on Graduate Research-20 (NSGR-20), Dr. N.G.P. Arts and Science College, Coimbatore, 21-Feb-20 and 22-Feb-20.
3. Committee Member, National Level Conference on “Futuristic Approaches in Transformation of Bioscience Research” (FATBR-2020), Dr. N.G.P. Arts and Science College, Coimbatore, 21-Feb-20 and 22-Feb-20.

Member in BoS

1. Board of Studies in Microbiology (PG & UG), PSG College of Arts & Science, Coimbatore, from Feb-16 to Oct-18.
2. Member, Board of Studies in Microbiology (PG), Thiagarajar College of Arts and Science, Madurai, from Feb-16 onwards.

Awards / Honors

Awards / Honors	Agency / Institute	Year of Award
Academic Excellence	PSG College of Arts & Science, Coimbatore	2015