

DR. SHAINY N.K.



Designation : Assistant Professor, Department of Microbiology

Qualification: PhD in Microbiology

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Dr. Shainy N.K. earned her under graduate degree in Microbiology from R V S College of Arts and Science, Sulur, Coimbatore; She did her Post Graduation in Microbiology from J. J. College of Arts and Science, Pudukkottai, Trichy and her doctorate in Microbiology on the topic “Detoxification of o-cresol by novel *Pseudomonas monteilii* SHY” from Karpagam Academy of Higher Education, Tamil Nadu in the year of 2020. A dedicated teacher with more than 16 years of teaching and research experience, she is committed to engage students in creative thinking and interdisciplinary learning experiences. She is an ardent researcher and has identified a new microorganism named ‘*Pseudomonas monteilii* SHY’ which is capable of degrading ‘o-cresol’ a potent phenolic compound. Her research interest also include Environmental Microbiology, Agricultural Microbiology and phytochemistry. She has a number of Publications in Scopus indexed journals and many book chapters in ISBN publication.

Educational Qualifications

- Ph.D from Karpagam Academy of Higher Education, Coimbatore on the topic “Detoxification of o-cresol by novel *Pseudomonas monteilii* SHY”
- MSc Microbiology from J.J. college of Arts and Science. Pudukkottai, Trichy
- UGC CSIR NET in Lifesciences

WORK EXPERIENCE

- Assistant Professor in Microbiology, M.H.E.S. College of Science and Technology, Vadakara
 - Lecturer in Microbiology, Hilarious Institute of Clinical Technology, Calicut
 - Guest Lecturer in Microbiology, Sree Narayana College, kannur
 - Assistant Professor in Microbiology, R.V.S. College of Physiotherapy, Sulur, Coimbatore.
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AREA OF INTEREST (RESEARCH/TEACHING)

- Research : Environmental Microbiology specialization in biodegradation
- Teaching : Genetics, Genetic Engineering, Molecular Biology, Immunology and General Microbiology

RESEARCH PROJECTS UNDERTAKEN

- Isolation, Identification, and optimization of pesticide degrading bacterium from farmland (2021-2022)
- Immobilization and optimization studies of agar encapsulated *Enterobacter cloacae* for enhancing pesticide degradation (2021-2022)
- Isolation, identification, characterization and growth response of flubendiamide, acetamiprid and quinalphos degrading bacteria from farmland (2021-2022)
- Isolation, Screening and Molecular characterisation of plastic degrading Bacteria from Plastic dumped Garbage soil (2019-2020)
- Isolation, Identification, Characterization and growth response of Flubendiamide pesticide degrading bacteria from farm land (2019-2020)
- Isolation identification and optimization of phenol degrading bacteria from polluted soil. (2018-2019)
- Screening, isolation and identification of poly hydroxybutyrate (PHB) producing bacteria from the soil sample(2017-2018)
- Antifungal activities of *Bacillus cereus* extracts obtained from soil. (2016-2017)
- Comparative study of biodegradation of O cresol by free and immobilized *Pseudomonas* cells in agar and sodium alginate beads (2015-2016)
- Optimization and analysis of cresol degrading bacteria. (2014-2015)

- In-vitro synergistic antimicrobial activity of *Chromolaena odorata* and *Hyptis suaveolens* leaf extracts against multidrug-resistant *Staphylococcus aureus* (2014-2015)
- Isolation, screening, identification, and characterization of cresol and phenol degrading bacteria from petroleum-contaminated soil(2014-2015)
- Isolation, identification, and characterization of a 2, 6 xylenol degrading bacterium *Pseudomonas*, sp., S-CSR-0008 from petroleum-contaminated soil(2013-2014)
- Isolation, identification, and characterization of a 2, 3 xylenol degrading bacterium, *Pseudomonas* sp S-CSR-0005 from petroleum contaminated soil (2013-2014)

Publications

1. **Shainy N.K.** and Nafeesathul Prinseena K.K. Antifungal activities of *Bacillus cereus* extracts obtained from soil. Proceedings of National Seminar, 'Symbiosis'18'- Research in Agricultural, Environmental, Industrial and Food Microbiology: Advances And Challenges". ISBN: 978-93-5300-740-9. (In Press).
2. **Shainy N. K.** and Asna K. Antimicrobial activity of *Hyptis suaveolens* leaf extracts against multidrug resistant *Staphylococcus aureus*. Proceedings of National Seminar, 'Symbiosis'18'- Research In Agricultural, Environmental, Industrial And Food Microbiology: Advances And Challenges". ISBN: 978-93-5300-740-9. (In Press).
3. **Shainy Nhattuketty Krishnan**, Usha Rajamanickam, Anuraj Nayarisseri (2018). Identification and characterization of cresol degrading *Pseudomonas monteilii* strain SHY from Soil samples Bioinformation 14(9):455 – 464.
4. **Shainy Nhattuketty Krishnan**, Usha Rajamanickam, Anuraj Nayarisseri (2018). Biodegradation effects of o-cresol by *Pseudomonas monteilii* SHY on mustard seed germination. Bioinformation 14(6): 271 – 278.

5. **N.K. Shainy and R. Usha** (2018). Aerobic batch degradation of cresol by newly isolated *Pseudomonas monteilii* Cr13. Journal of Pure and Applied Microbiology. 12(1): 309-315
6. Fathima Rasli C.H, **Shainy N K.** Neja C., Farha Barami and Kunhi AAM (2017). Antibacterial and synergistic effects of leaf extracts of *Chromolaena odorata* and *Hyptis suaveolens* against multidrug resistant strain *Staphylococcus aureus*. Advances in Microbiology, Proceeding of National Seminar Biospark'16: "Nanotechnology meets Microbiology": ISBN: 978-3-330-07223-7. 70 – 84.
7. **Shainy N.K.** and Usha R. (2017) Optimization of biodegradation of cresols by acclimatized *Pseudomonas* Sp., Advances in Microbiology, Proceeding of National Seminar Biospark'16: "Nanotechnology meets Microbiology": ISBN: 978-3-330-07223-7. 95 – 109.
8. Remya T, Kunhi A A M, Asha B, **Shainy N K** and Farha Baramy (2017). Production, partial purification and characterisation of thermo active and thermo stable alkaline protease from *Bacillus* sp. S CSR 0001 isolated from soil. Advances in Microbiology, Proceeding of National Seminar Biospark'16: "Nanotechnology meets Microbiology": ISBN: 978-3-330-07223-7. 28 – 46.
9. Jishna T, Shimna U, **Shainy N K**, Shana Sherin C, Asha B and Kunhi A A M (2017). Isolation and characterisation of Dimethyl phenol (2,6 and 2,3 xyleneol) degrading bacterium from petroleum contaminated soil. Advances in Microbiology, Proceeding of National Seminar Biospark'16: "Nanotechnology meets Microbiology": ISBN: 978-3-330-07223-7. 85 – 94.
10. Angima Bichang'a Kinsley, P. Muthukrishnan, **N. K. Shainy and R. Usha** (2020) Approaches to prevent and treat bacterial biofilm on implantable devices,. Bulletin of Environment, Pharmacology and Life Science, Vol 10 Dec 2020 168-174 Online ISSN 2277-1808

11. Asha B, **Shainy NK**. (2019) Optimisation of Extracellular Invertase Enzyme Production by Bacillus Sp. Isolated from Bagasse, Bio-comprensión: A collection of Biological Research Papers. Department of Biotechnology, EMEA College of Arts and Science, Kondotti, Kerala, India, Pin. 6763638 ISBN : 978-93-5382-190-6
12. **Shainy N.K.** Asha B, Nafeesathul Prinseena K.K. (2019) Antifungal activities of Bacillus cereus extracts obtained from soil. Bio-comprensión: A collection of Biological Research Papers. Department of Biotechnology, EMEA College of Arts and Science, Kondotti, Kerala, India, Pin. 6763638 ISBN : 978-93-5382-190-6

PROFESSIONAL ENHANCEMENT PROGRAMMES

WORKSHOPS ATTENDED

1. Emerging challenges in research methodology, statistical analysis and manuscript writing practices
2. Dimensions of IPR in Science and Technology Progress
3. University grants Commission and National Assessment and Accreditation council
4. Embracing technology on higher education – the challenges and opportunities for college
5. Implementation strategies of revised accreditation framework- NAAC
6. Social dimensions in education and E learning resources
7. Curricular Aspects - PARAMARSH
8. Governance, Leadership and Management and Institutional values and Best practice - PARAMARSH
9. Teaching, Learning and Evaluation- PARAMARSH
10. Student Support and Progression- PARAMARSH
11. Institutional documentation in higher education- PARAMARSH
12. Research Innovations and Extensions- PARAMARSH
13. Quality enhancement and NAAC Accreditation, New framework and future challenges- PARAMARSH
14. Infrastructure and E Learning resources- PARAMARSH
15. Online examination platform- 3 day National workshop
16. NPTEL-E awareness workshop
17. Transformation through NAAC accreditation process

TRAININGS ATTENDED

1. Academic leadership(CALEM WORKSHOP)
2. Climate crises, science economy politics
3. Food Allergy
4. Computer Aided drug designing
5. Office management in higher education institution

6. MOOC Course online learning and content development

FACULTY DEVELOPMENT PROGRAMMES

1. MOODLE learning Management system MES Marampilly
2. Skill for next generation teachers (Guru ankat dev teaching learning centre, ministry of education, vimala college)
3. Professionalism, integrating activities to teaching, presentation skill, leadership skill and motivational skills (Alshifa college of arts and science, Perinthalmanna)
4. One week international faculty FDP on Innovation, IPR, Technology Development And Entrepreneurship (SCC, KSCST IP cell, institutions innovation council and IQAC, Saint Claret college, Bengaluru)
5. FDP on Entrepreneurship (KITCO, NSTEDB,DBT, India)
6. Prudent Teaching Dynamics – 7 day National level FDP organized by IQAC, SIAS
7. Best Practices for Online Teaching: Classrooms, Courseware and Tools
8. Upskill for digital trends in academics , Scrollwell
9. Online Faculty Development Programme for College Teachers organized by Farook College (Autonomous), Kozhikode under PARAMARSH scheme of UGC
10. Technology Enabled teaching and learning , MES ,KALLADI
11. Faculty Development Programme on E Learning organized by ECDC, SIAS
Unleash your potential

National/ International Symposia/ Seminar/ Congress/ etc- Attended

1. Attended Robots after COVID -19 conducted by Dept. of Computer Science, Nilgiri College of Arts and Science on 11.05.2020
2. Attended and presented a paper AMSMB '20-and International Conference on Advances in Medical Science and Molecular Biology conducted by IDHAYA College for Women, Kumbakonam on 27.01.2020
3. 3rd Student-Scientist Interface on Microbial Diversity: A Boon or A Bane?" Organized by ICAR-IISR on 21.12.2019

4. One Day training “CLIMAT CRISIS” organized by the Department of Students Union, NSS, National Green Crops and Friends of Nature held in University of Calicut on 08.12.2019
5. One day National Seminar on Academic Facilitator and learner participation for quality Assurance in higher education organized by Little Flower College Guruvayoor on 16.10.2019
6. SAAC orientation Programme by The Kerala State Higher Education council and University of Calicut on 19.08.2019
7. Two Day National Conference on Quality Teaching, Learning & Assessment in Higher Education in the era of Open Online Education organized by MAMO College on 01.03.2019 and 02.03.2019
8. International Conference ‘ICABS-19’, Advances in Microbiology- E.M.E.A. College, Kondotty on 27.02.2019 and 28.02.2019
9. Workshop on Implementation strategies of revised accreditation framework –NAAC organized by IQAC, Govt. College, Kodanchery. Sponsored by Directorate of collegiate Education, Government of Kerala on 08.11.2018 and 09.11.2018.
10. Workshop on Embracing Technology in higher education-The challenges and opportunities for colleges organized by ICF & IQAC, University of Calicut on 24.11.2018.
11. Workshop on UGC-NAAC Awareness workshop on quality Assessment and accreditation.
12. Training program on Academic Leadership, CALEM, MHRD And PMMMNMTT,(AMU) Aligarh. PSMO college on 12.09.2018 and 15.09.2018

National/ International Symposia/ Seminar/ Congress/ etc - Organized

1. One Day Regional Seminar on Intellectual Property Rights on 17-01-2020 (Dept. of Microbiology and IEDC, SIAS)
2. One day workshop “Social Dimensions in Education and E-Learning Resources on 08.06.2019(IQAC , SIAS)
3. One day international seminar “BioCommercium”, SIAS on 07.08.2019 National Science Day celebrations “SCIENTIA-19 (SIAS)” Supported by KSCSTE AND DST on 19.02.2019
4. HACCP training on 30.08.2018 to 31.08.2018 (Department of Microbiology, SAFI Institute of Advanced Study, Vazhayoor)\

5. ‘Symbiosis’18’- Research In Agricultural, Environmental, Industrial And Food Microbiology: Advances And Challenges”- Two Days National Seminar Co-Sponsored By KSCSTE on 15.03.2018 and 16.03.2018(Department of Microbiology, SAFI Institute of Advanced Study, Vazhayoor)
6. Workshop on Mushroom cultivation by Department of Biotechnology, SAFI Institute of Advanced Study, Vazhayoor

PRESENTATIONS

1. MESMAC International conferences- Ecologies of the New: Matter, Mind and Body
Paper title: Studies on removal of seed germination inhibition by biodegradation of o-cresol with *Pseudomonas monteilii*.
2. Biospark’16: “Nanotechnology meets Microbiology”- UGC Sponsored National seminar conducted by Department of Microbiology, EMEA College of Arts and Science, Kondotty
Paper title : Isolation and optimization of cresol degrading microorganism
3. 8th Annual Research Congress,KUARC-2016- National Research Congress organized by Karpagam Academy of Higher Education, Coimbatore
Paper Title: Biodegradation of cresol using free and immobilized cells of *P.monteilii*
4. National Seminar On Medical plants in primary health care conducted by KSCSTE Sponsored National Seminar at Sree Narayana college , Kannur
Paper Title : In vitro synergistic activity of plant leaf extracts against multidrug resistant *Staphylococcus aureus*
5. Two day national conference on “microbial biotechnology for sustainable Agriculture and food safety (NMSFS-2017) organized by Karpagam Academy of Higher Education, Coimbatore
Paper Title: Effect of soil bioremediation in eliminating the inhibitory effect on seed germination
6. 6th annual research congress, KUARC-2014- National Research Congress organized by Karpagam Academy of Higher Education, Coimbatore
Paper Title: Degradation of O cresol
7. Poster Presentation

Poster title: Optimization of aerobic biodegradation of o-cresol by *Pseudomonad Monteilii* SHY using response surface methodology, In the “First International E conference on

Microbiology: COVID 19 and current issues” Held on 31st January 2021, organized by the Department of Microbiology, Primeasia University, Bangladesh

AWARDS AND ACHIEVEMENTS

Best Paper Presentation Award

Paper title:

“Optimization of aerobic biodegradation of o- cresol by *Pseudomonas monteilii* SHY using conventional and Response Surface Methodology (RSM) “ International Conference on emerging strategies in antimicrobial agents and Bio-innovations organized by School of Science, RK University in collaboration with Microbiologists Society held on 18th and 19th December 2020

ADMINISTRATIVE ROLES

Internal Duties

Academic

1. Advisor and mentor to MSc and BSc Microbiology students
2. Principal Investigator for the KSCSTE student project

Administrative

1. IQAC coordinator succeeded by NAAC coordinator
2. Discipline Committee Member,
3. Women Development Cell convener
4. Advisory Scheme Director
5. Academic Council Member

External Duties

1. Chief examiner in Calicut University post graduate and graduate level theory paper valuation.
2. External examiner in University Practicals in post graduate level
3. External examiner to evaluate Post graduate dissertation
4. Course coordinator in the ‘Learn in Lockdown with ‘AKPCTA’ programme.