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📍 Kottayam, Kerala

📅 28.02.1987, 39 yrs

## Languages

English

Hindi

Malayalam

## Profile

Environmental Researcher with a strong foundation in bioenergy, waste valorization, and microbial biotechnology. Skilled in experimental design, data interpretation, and lab-scale biohydrogen production studies. Driven by a passion for sustainable innovation, aiming to advance environmental resilience through practical and research-based solutions.

## Professional Experience

### Research Associate

January 2026 – Present

#### Advanced Centre of Environmental Studies and Sustainable

##### Development, Mahatma Gandhi University, Kottayam

- Project on biochar in advanced applications of water treatment, sustainable agriculture and air purification
- Research, Analysis, Publications, Documentation
- Overall coordination of activities of the centre

### Post Doctoral Research Fellow

February 2024 – December 2025

#### Chief Minister's Nava Kerala Post Doctoral Fellowship 2023

#### Advanced Centre of Environmental Studies and Sustainable

##### Development, Mahatma Gandhi University, Kottayam

- Research work on biohydrogen generation from vegetable market waste with the incorporation of nanobiotechnological applications

### Research Associate

August 2023 – January 2024

#### Advanced Centre of Environmental Studies and Sustainable

##### Development, Mahatma Gandhi University, Kottayam

- RUSA project on Biochar application in sustainable agriculture and climate change mitigation
- Research, Analysis, Publications, Documentation,
- Overall project coordination

### Research Intern

June 2022 – June 2023

#### Business Innovation and Incubation Centre, Mahatma Gandhi

##### University, Kottayam

- Organization, coordination of entrepreneurial-related activities of the Centre
- Conduct of training programmes

### **Technology Fellow**

*March 2022- May 2022*

**Business Innovation and Incubation Centre, Mahatma Gandhi University, Kottayam**

- Promotion of translational research
- Coordination of innovation and entrepreneurship
- Conduct of training programmes

### **Programme Coordinator**

*November 2020 - November 2021*

**Kerala State Biodiversity Board, Thiruvananthapuram**

- Collection, compilation and analysis of data on tradable bioresources of Kerala
- Interaction with R&D experts and Govt. Officials
- Report Preparation

### **Consultant Biodiversity & Geoinformatics**

*August 2019 – November 2020*

**Eco Loving Advancement, Kottayam**

- Field level biodiversity assessment, phytosociology analysis
- GIS based thematic map preparation
- Report drafting

### **Project Officer (Kerala State)**

*October 2011 –February 2012*

**CPR Environmental Education Centre, Chennai**

- Coordination and conduction of environment awareness workshops,
- Nature-oriented project activities and programmes
- Article publications

### **Research Associate**

*October 2010 –October 2011*

**World Wide Fund for Nature- India (WWF), Kerala State Office**

- Field Survey with stakeholders,
- Interaction with R&D experts and Govt. Officials,
- Data collection and Analysis,
- Organization and conduct of stakeholder discussions and meetings
- Report Preparation

## **Academic Profile**

- **Doctor of Philosophy (2020)**  
Environmental Sciences  
Mahatma Gandhi University
- **Master of Science (2010)**  
Environmental Sciences (76.1%)  
Mahatma Gandhi University
- **Bachelor of Sciences (2008)**  
Botany (93.5%)  
Mahatma Gandhi University

## Skills & Expertise

- Analysis of physico-chemical parameters of environmental samples (air, water, soil)
- Microbiological analysis
- Biodiversity estimation
- GIS mapping and analysis (ArcGIS)
- Scientific Writing

## Awards & Fellowships

- Recipient of Chief Minister's Nava Kerala Post Doctoral Fellowship - 2023
- Recipient of KSCSTE Research fellowship- 2011 for pursuing Ph.D
- Third Rank holder in M. Sc Environmental Science and Management (2010) Mahatma Gandhi University, Kottayam
- Proficiency prize in Botany- 2008, Sr. Little Flower scholarship award for highest mark in B.sc third year Botany, BCM College, Kottayam
- Proficiency prize in Chemistry Subsidiary- 2008, Sr. Little Flower scholarship award for highest mark in B.sc Chemistry Subsidiary, BCM College, Kottayam

## Research Metrics

- Google Scholar *h-index* -7
- Total Citations – 260

## Publications

1. **Jerry Mechery**, C. S. Praveen Kumar, V. Ambily, Abin Varghese & V. P Sylas (2023): Dark fermentation of pretreated hydrolysates of pineapple fruit waste for the production of biohydrogen using bacteria isolated from wastewater sources, *Environmental Technology*, Apr;45(10):2067-2075. doi: 10.1080/09593330.2022.2164743. **Impact factor: 2.3. SCOPUS indexed and listed in UGC-CARE List (India)**
2. **Jerry Mechery**, Daniya M. Thomas, Praveen Kumar C.S, Laigi Joseph and Sylas V.P. 2019. Biohydrogen production from acidic and alkaline hydrolysates of paddy straw using locally isolated facultative bacteria through dark fermentation. *Biomass Conversion and Biorefinery*; 11:1263–1272. **Impact factor : 4.1, SCOPUS indexed and listed in UGC-CARE List (India)**
3. **Jerry Mechery**, Biji B, Daniya M Thomas and Sylas VP. 2017. Biohydrogen production by locally isolated facultative bacterial species using the biomass of *Eichhornia crassipes*: effect of acid and alkali treatment. *Energy Ecology and Environment*. 2(5): 350-359. DOI 10.1007/s40974-017-0069-4. **Impact factor : 3.6, SCOPUS indexed and listed in UGC-CARE List (India)**
4. **Jerry Mechery**, Praveen Kumar C.S, Deepa Nair K and Sylas V.P. 2014. Biohydrogen production by microbial communities isolated from biogas plant slurry using glucose as substrate. *International Journal of Current Research*. 6 (12): 10942-10945.

5. **Jerry Mechery**, Abin Varghese and Sylas V.P. 2014. DPSIR based State of Environment for Velloor region in Kottayam District, Kerala, India. The Environment. UDK: 502.13(540.69)
6. C.S. Praveen Kumar, V.P. Sylas, **Jerry Mechery**, V. Ambily, Raisa Kabeer, C.T. Sunila 2023. Phycoremediation of cashew nut processing wastewater and production of biodiesel using *Planktochlorella nurekis* and *Chlamydomonas reinhardtii*. Algal Research. 69(102924) ISSN 2211-9264. <https://doi.org/10.1016/j.algal.2022.102924>. **Impact factor: 4.5, SCOPUS indexed and listed in UGC-CARE List (India).**
7. C.T. Sunila, V.P. Sylas, Neethu Cyril, Raisa Kabeer, **Jerry Mechery**, B.N. Anila, Smitha Knox. 2025. Larvicidal effects of biofabricated iron nanoparticles made from the aqueous extracts of *Eupatorium adenophorum* and *Artocarpus hirsutus*, with their effect on the predatory efficiency of mosquito fish. Nano-Structures & Nano-Objects; 41: 101430. ISSN 2352-507X. <https://doi.org/10.1016/j.nanoso.2024.101430>
8. Praveen Kumar C.S, Ambily V, **Jerry Mechery**, Daniya M. Thomas, Jomon P. Jacob and Sylas V.P. 2020. Phycoremediation of paper and pulp mill effluent using *Planktochlorella nurekis* and *Chlamydomonas reinhardtii*- A comparative study. Journal of Environmental Treatment Techniques. 8(2):809-817.
9. Daniya M Thomas, **Jerry Mechery** and Sylas VP. 2016. Isolation of native fluence gas-tolerant microalgae from a mixed culture grown under stress conditions. International Journal of Environmental Science. 6(6): 970-978. **SCOPUS indexed and listed in UGC-CARE List (India)**
10. Daniya M Thomas, **Jerry Mechery** and Sylas VP. 2016. Carbon dioxide capture strategies from flue gas using microalgae: a review. Environmental Science and Pollution Research. 23(17):16926-16940. **Impact factor: 5.190, SCOPUS indexed and listed in UGC-CARE List (India)**

#### NCBI Gene Bank Submissions

1. *Proteus mirabilis* – NCBI Accession no: KY817361
2. *Pseudomonas aeruginosa* – NCBI Accession no: KY817362
3. *Bacillus altitudinis* – NCBI Accession no: MK240093
4. *Paenibacillus alvei* – NCBI Accession no: MK240095
5. *Lysinibacillus sphaericus* – NCBI Accession no: MK240096
6. *Bacillus subtilis* – NCBI Accession no: MK391747

#### Seminar / Conference Presentations

1. **Jerry Mechery**, Sylas VP and Baiju KR. Biohydrogen Production from Biodegradable Organic Residues: A Sustainable Green Energy Approach under *Rebuild Kerala Initiative*, presented a paper in the National Research Conference & Kerala Higher Education Expo 2026, held at Government College for Women, February 9-11, 2026.

2. **Jerry Mechery** and Sylas VP. Biohydrogen Production From *Eichhornia crassipes* by *Pseudomonas aeruginosa* Through Dark Fermentation, presented a poster at 28<sup>th</sup> Kerala Science Congress at University of Calicut, Jan 28-31, 2016.
3. **Jerry Mechery** and Sylas VP. Biohydrogen: A Promising Energy Carrier From Bacterial Communities, presented a paper at the National Seminar On Environmental Issues at SVR NSS College Vazhoor, Feb 3-5, 2016.
4. C.S. Praveen Kumar, **Jerry Mechery**, Raisa Kabeer and Sylas VP. Phycoremediation of pulp and paper mill effluent using *Planktochlorella nurekis*, presented a poster at the 31<sup>st</sup> Kerala Science Congress at Fatima Mata National College, Kollam, 02-03 February 2019.
5. C.S. Praveen Kumar, **Jerry Mechery**, Raisa Kabeer and Sylas VP. Phycoremediation of cashewnut processing wastewater and pulp and paper mill effluent using native *Chlorella* species, presented a poster at the 29<sup>th</sup> Kerala Science Congress at Mar Thoma College, Thiruvalla, 28-30, January, 2017.
6. C.S. Praveen Kumar, Ambily V., **Jerry Mechery** and V.P. Sylas. Phycoremediation of cashew nut processing wastewater using two native microalgae and subsequent lipid production, presented a paper at the 28<sup>th</sup> Kerala Science Congress at University of Calicut, Jan 28-31, 2016.
7. C.S. Praveen Kumar, **Jerry Mechery**, V. Ambily, Daniya M Thomas and Sylas VP. Wastewater treatment and subsequent lipid production potential of freshwater microalga, *Chlorella sp.* presented a poster at International Conference on Water: From Pollution to Purification at M.G.University, Kottayam, January 23-26, 2015.
8. Daniya M Thomas, **Jerry Mechery** and Sylas VP. Selection of native flue gas-tolerant microalgae in view of carbon sequestration, presented a paper at International Conference on Climate change and the developing world held at CMS College, Kottayam during 21-25<sup>th</sup> January 2015.

## Projects

- Application of indigenous bacteria and biosynthesized iron nanoparticles for enhanced biohydrogen production from market waste biomass: A waste-to-energy approach (Post Doctoral Research Work)
- Biohydrogen production by anaerobic fermentation of selected plant biomass using indigenous bacterial communities (Ph.D Thesis)
- Development of Sustainable Livelihood Security Index (SLSI) for the Ramsar Sites (Vembanad Lake) of Kerala (Project of WWF-India, Kerala)
- A study of the environmental status of the Velloor panchayath to develop a State of Environment report. (M.Sc Dissertation)
- A preliminary study on solid waste management strategies for Mahatma Gandhi University campus. (group project work during M. Sc programme).
- Evolutionary-based phytodiversity studies in a stable well ecosystem in the midland area of Kerala- A case study (B.Sc Dissertation)

## Seminars & Conferences Participation

- Phytoedufest- November 2007, Educational programme at Department of Botany, Assumption college, Changanacherry.
- One day Seminar on Climate change- February 2009, conducted by Centre for Environment, Education and Technology at CMS college, Kottayam.
- Second International Conference on Advanced Oxidation Processes - October 2012, Society of Environmental Chemistry and Allied Sciences (SECAS) at School of Environmental Sciences, Mahatma Gandhi University, Kottayam.
- Lake 2012 - National Conference on Conservation and Management of Wetland Ecosystems - November 2012, School of Environmental Sciences, Mahatma Gandhi University, Kottayam, Energy and Wetlands Research Group, Centre of Ecological Sciences, Indian Institute of Science, Bangalore and Advanced Centre of Environmental Studies and Sustainable Development (ACESSD) at School of Environmental Sciences, M.G. University.
- 25th Kerala Science Congress, Kerala State Council for Science, Technology and Environment (KSCSTE) at Technopark Trivandrum, January 2013.
- Workshop cum Ninteenth National Symposium on Environment, Dec. 11-13, 2014 at School of Environmental Sciences, Mahatma Gandhi University, Kottayam.
- The International Conference on Water: From Pollution to Purification at School of Environmental Sciences, Mahatma Gandhi University, Kottayam, 23-26 January 2015.
- 27<sup>th</sup> Kerala Science Congress, Kerala State Council for Science, Technology and Environment (KSCSTE) at Alappuzha, January 2015.
- 28<sup>th</sup> Kerala Science Congress organized by Kerala State Council for Science, Technology and Environment (KSCSTE) at University of Calicut, Thenhipalam, January 2016.

## Certification Courses and Training

- National Workshop on Frontiers of Spectroscopy and Microscopy, Inter University Instrumentation Centre, Mahatma Gandhi University, Kottayam, Sept. 2012
- Short-term training programme in Analytical Instrumentation (Spectroscopic and Chromatographic Techniques), Advanced Centre of Environmental Studies and Sustainable Development (ACESSD) and Inter University Instrumentation Centre, Mahatma Gandhi University, Kottayam, May 2013
- Training workshop on 'Aquifer Management and Local groundwater Issues in Kerala' Central Ground Water Board, Kerala and Ministry of Water Resources, Govt. of India, February 2014
- Online course on 'Basic Principles of Remote Sensing Technology' conducted by Indian Institute of Remote Sensing (IIRS), ISRO Dehradun, during 13-04-2020 to 25-04-2020 (15 days)
- Online course on 'Comprehensive Disaster Risk Management Framework' conducted by Global Facility for Disaster Reduction and Recovery (GFDRR) and National Institute of Disaster Management (NIDM), New Delhi, from 20<sup>th</sup> May to 1<sup>st</sup> July 2020 (45 days)
- One-month online Internship programme on Geoinformation Science and Technology conducted by Dr. R. Satheesh Centre for Remote sensing and GIS, School of Environmental Sciences, Mahatma Gandhi University, Kottayam, Kerala (11<sup>th</sup> July 2022- 10<sup>th</sup> August 2022)

## Reference

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