



**ALAGAR K**

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## **CAREER OBJECTIVE**

To obtain a career in a highly challenging environment where my resourceful experience and academic skills will add value to organizational operations.

To obtain a career in research field of science and technology and add value to focus on further experience in research and development.

## **ACADEMIC QUALIFICATION**

<b>Degree</b>	<b>University/ Board</b>	<b>Institution</b>	<b>Year of passing</b>	<b>CGPA/ percentage</b>
M.Tech (Biotechnology)	Anna University	Rajalakshmi Engineering College, Thandalam, Chennai, Tamilnadu	2024	8.55/ 10
B.Tech (Biotechnology)	Anna University	Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, avadi , Chennai, Tamilnadu	2020	7.54 / 10
HSC	Tamil Nadu State board	Velammal Matric Higher Secondary School, Panchetti, Thiruvallur, Tamilnadu	2016	85.833%
SSLC	Tamil Nadu State board	Velammal Matric Higher Secondary School , Surapet, Chennai, Tamilnadu	2014	91%

## **AREA OF INTEREST**

1. Environment Biotechnology (Microbial fuel cell) – Addressing Environmental problems with various applications such as waste water treatment, electricity generation and bioremediation. Even focus on design of microfluidics devices, biosensors and biological battery.
2. Microbiology – Interested in isolation and screening of eco-friendly microorganism from natural source.
3. Bioprocess – Interested in Process development for production of commercial products and improvement in production strategy.

## **ACADEMIC PROJECT**

### **1. Optimization of microbial production of vitamin B<sub>12</sub>**

**Supervisor- Dr.S. Mugesh**, Director- Park's BioLabs, Professor (Research), Department of Biotechnology, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai- 600062.

**Summary-** The Project mainly focuses on effective production of Vitamin B<sub>12</sub> from novel microorganism isolated from natural source by the incorporation of raw materials such as various carbon sources and nitrogen sources with varies concentration of other nutrients components and optimize the minimal medium for microbial production of vitamin B<sub>12</sub> by implementation of Response Surface Methodology (RSM) using Design Expert 12.0 software.

## 2. Microbial fuel cell for wastewater treatment and power generation using waste water from communal source

**Supervisor- Dr. M. Gopinath**, Associate professor, Department of Biotechnology, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College (Autonomous) affiliated to Anna University, Chennai - 600062.

**Summary-** The project focuses on Power generation from waste water and waste water treatment (Reducing Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD)) by eco-friendly bacteria. The *E. coli*. strains which were isolated from the wastewater itself has been used in the MFC. GEN BANK accession number for nucleotide sequence is “SUB7042930 *E.coli*. MT116415”. The Microbial Fuel Cell utilized for this study was a Dual-Chambered Fuel Cell with Cathode and Anode compartment separated with a Proton Exchange Membrane (PEM). The MFC design is Cuboid shape. Two Graphite rods (2mm diameter & 100mm length) are chosen as the electrodes for the operation. The overall surface area of Acrylic sheet needed for the operation was found out by employing the design calculations. The total working volume is 550ml for both anodic & cathodic compartments. The Proton Exchange Membrane used here is fumasep FKS 30. It is 21 µm thick with slight brown appearance. It has a specific conductivity of 3.9 Ms cm<sup>-1</sup>, tensile strength of 50 MPa, e-yield strength varies between 46 and 60 MPa. In this experiment, a reduction of 70% in BOD and 90% in COD was achieved in communal wastewater and MFC runs for 4 days to generate more than 100mV.

### TECHNICAL QUALIFICATION

1. Bio reactor – NPTEL – January- February 2019.
2. Business English certificate (preliminary level)- University of Cambridge - September 2017.

### WORKING EXPERIENCE

- Aug 2024 – Present:** **Project Associate I – Department of Science and Technology (DST) funded project entitled “Biofilm Engineering Methods for Enhancing the Performance of Microbial Fuel Cells”** under Dr. Sathish Kumar R, Principal Investigator of the project in the Centre for Waste Management in Sathyabama Institute of Science and Technology. Chennai.
- Dec 2020 –Jul 2022:** **Quality Controller – Microbiology and Environment Monitoring Technique**, BCG Vaccine Production unit, GreenSignal Biopharma Private Limited, Gummidipoondi, Tamilnadu, India.

### INTERNSHIP

- Aug 2023 –Jul 2024:** **Research Intern** (Research and development of microbial production of vitamin B12) at Park’s BioLabs, Incubated at TBI, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, Tamilnadu, India.

### CONFERENCE

1. Presented a paper entitled “Development of a strategy for precise isolation of a microbe with high B<sub>12</sub> yielding potential from natural sources” in International Conference on Advances in Chemical, Biochemical and Microbial Technology for Sustainable Development (ACBMT’2024) held at Hindusthan College of Arts & Science College, Coimbatore, Tamil Nadu on 25<sup>th</sup> & 26<sup>th</sup> March 2024.
2. Presented a paper entitled “Development of a strategy for precise isolation of a microbe with high B<sub>12</sub> yielding potential from natural sources” in International conference on current sustainable agricultural, biotechnological, nutritional and pharmaceutical interventions to combat global

challenges (DST- Science and Engineering Research Board) held at KL university, Guntur, Andhra Pradesh on 19<sup>th</sup> – 21<sup>th</sup> December 2023.

3. Presented a paper entitled “Development of a strategy for precise isolation of a microbe with high B<sub>12</sub> yielding potential from natural sources” in National Conference on Innovations in Management of lifestyle diseases (EMBIOS’2024) held at Rajalakshmi Engineering College, Thandalam, Tamil Nadu on 27<sup>th</sup> & 28<sup>th</sup> March 2024.
4. Presented a paper entitled “E-waste management by using fungi species” in National conference on biology in human welfare and bioentrepreneurship held at Vels Institute of Science, Technology & Advanced Studies, Chennai, Tamilnadu on February 28 & March 1, 2019.

## INTERNATIONAL RECOGNITION

1. **Team Advisor** of iGEM 2023 (International Genetically Engineered Machine) REC- Chennai  
Project- RECOVER: Revolutionizing CO<sub>2</sub> Capture And Isobutanol Production By Engineered *E.coli*. [iGEM Projects](#), Held at Grand Jamboree, Paris November 2-5, 2023.
2. NCBI (National Center for Biotechnology Information)16s rRNA sequence – Accession no: **SUB7042930 *E.coli* MT116415**.
3. Submitted the application for grant of a patent – Application no: 202441052138, under examination

**Field:** Biochemistry.

**Title:** METHOD FOR DETECTION OF THE VITAMIN B12 PRODUCING PSEUDOMONAS SPECIES FROM NATURAL BACTERIAL ISOLATES.

## SPORTS ACHIEVEMENT

1. **Won the Gold and Bronze medal** in Rhythmic and Individual yoga category 11-17 years in **ASIAN CHAMPIONSHIP (1)** for yoga and martial arts - Darjeeling 2012-2013.
2. Participate in the **56<sup>th</sup> and 57<sup>th</sup> National school games yogaasan (SGFI)** - Ambaji (2011) and Delhi (2012).
3. Won **3<sup>rd</sup> prize in state level yoga competition- 2019** held at Chennai.

Father's name	Kaliappan R
Permanent Address	136, 9 <sup>th</sup> Cross street, Sai Kirupa Nagar, Janappan Chataram Koot road, Chennai 600067, Tamilnadu, India
Gender	Male
Date of birth	22-12-1998
Languages known	English, Tamil

## PERSONAL DETAILS

### DECLARATION

I hereby declare that all the information given above is true to the best of my knowledge.

Location: Chennai

ALAGAR K