

# CV

## T Shakena Fathima

M.Sc Life Science, Ph.D Microbiology (*Awaiting for viva*)  
National Repository of Microalgae and Cyanobacteria (NRMC-F)  
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### **CAREER OBJECTIVE**

To be associated with a progressive organization that gives me a scope to update my knowledge and skills in accordance with the latest trends, and to be part of a team that works dynamically towards the growth.

### **ACADEMIC CHRONICLES:**

DEGREE/ SCHOOLING	INSTITUTION	UNIVERSITY	YEAR OF PASSING	PERCENT
Ph.D Microbiology	Department of Microbiology	Bharathidasan university	2018-2024	Waiting for defence
M.Sc Life Sciences	School of Life sciences, Bharathidasan University	Bharathidasan university	2018	80%
HSC	Alpha Plus Matriculation Higher secondary school, Trichy	Tamil Nadu State board	2013	78%
SSLC	Alpha Plus Matriculation Higher secondary school, Trichy	Tamil Nadu State board	2011	82%

From 2018-2020: Worked as a Junior Research fellow (JRF) in Department of Microbiology, Bharathidasan University, Trichy

### **Project Details:**

#### **DBT – Sponsored Project**

BT/PR15713/AAQ/3/797/2016

#### **Culturable Actinomycetes Associated with Coastal Lichens: A Potential source of Bioactive Compounds**

### **Projects completed during M.Sc**

- Mini Project: **Axenic strains of Cyanobacteria using Ozone gas**  
The main objective of this project is to convert pure strains to axenic strains using ozone gas to reduce the cost efficient and side effects due to antibiotics.
- Main project: **Augmenting Anti-diabetic and Anti-obesity activity of Curcumin using *Spirulina platensis***  
Curcumin has many applications in day-to-day life, but its biocompatibility inside our living body is less. Spirulina has a good source of proteins in which they are treated with known quantities of Curcumin to increase its biocompatibility and also their anti-obesity and anti-diabetic activity shows higher inhibition than control extract of *spirulina*

### **TECHNIQUES KNOWN**

- Cyanobacterial Taxonomy – From morphological to Molecular level of Identification.
- Extraction of DNA and RNA from Bacteria, Cyanobacteria and Green Algae
- Microbes - Pathogens
- Extraction of Bioactive compounds from plant extracts
- Isolation and maintenance of symbiotic and free-living microalgae
- Open tank mass cultivation of microalgae
- Microphotography – Morphological characterization
- Bacterial, Fungal isolation, cultivation, staining techniques and colony identification.
- Animal Cell line handling
- Raceway pond Maintenance for Biomass productivity
- Ion Torrent Next generation sequencing and its bioinformatics work flow.

### **INSTRUMENTS HANDLED**

- PCR
- Real Time PCR (RT-PCR)
- Atomic Absorption Spectroscopy (AAS)
- FTIR
- HP TLC
- Bright, Phase, Dark field and Florescence microscopy
- Ion Torrent Next generation sequencing

## **CONFERENCES ATTENDED**

1. Participated in the “International Conference on Algae: Food, Feed, Fuels and Fine chemicals – ICA-F 4’ 23” organized by National Repository for Microalgae and Cyanobacteria (NRMC) Fresh water and Marine division & Department of Microbiology, Bharathidasan University, Tiruchirappalli [ 6th to 8th September,2023]
2. Participated in the workshop “CRISPR” organized by Department of Microbiology, Bharathidasan University, Tiruchirappalli and Society of Chemical and Synthetic Biology [24th September 2022].
3. Participated and Presented a Paper in the “International Conference on Microbiome and Synthetic Biology (ICMSB 22)” organized by Department of Microbiology, Bharathidasan University, Tiruchirappalli and Society of Chemical and Synthetic Biology [22nd to 23rd September 2022].
4. Attended “National Seminar on Future of Algal Biotechnology (FAB - 2022) organized by Department of Microbiology and National Repository for Microalgae and Cyanobacteria, Bharathidasan University, Tiruchirappalli – 620 024, Tamil Nadu, in association with Microbiologist Society of India (MBSI), Tamil Nadu, India [June 18th 2022]
5. Attended “An entrepreneurship programme on Oyster Mushroom Farming for the Empowerment of Rural Population” by Department of Microbiology, Bharathidasan University, Tiruchirappalli, Tamil Nadu [24th – 25th March 2022].
6. Participated in the National workshop on “Molecular Methods in Taxonomy to Biotechnology of Actinobacteria and Cyanobacteria (MoMeTBAC-22)” sponsored by Rashtriya Uchchattar Shiksha Abhiyan (RUSA 2.0 Biological Sciences) and organized by Department of Microbiology. Bharathidasan University, Tiruchirappalli, Tamil Nadu [8th – 10th March 2022].
7. Participated in the “UGC – Sponsored Online Interaction Programme for Ph.D. Research Scholars” by UGC – Human Resource Development Centre (HRDC), Bharathidasan University, Tiruchirappalli, Tamil Nadu [22nd - 28th February 2022].
8. Shakena Fathima T, Muralitharan G and Thajuddin N. Augmenting Antidiabetic and Anti-obesity activity of Curcumin using *Spirulina subsalsa*” on International Symposium on Biodiversity, Biology and Biotechnology of Algae’ to be organized during 8th – 10th

January 2020 by the Centre for Advanced Studies in Botany, University of Madras, Chennai – **Best paper Award**

9. National conference on “**Challenges and Future Prospects of applied research in Life sciences**” held on 6<sup>th</sup> February, 2015 in Department of Biochemistry, Bharathidasan University.
10. Shakena Fathima T, Muralitharan G and Thajuddin N. “Taxonomic Interference among other Oscillatoriales using 16S rRNA analyses” on an International Conference on Cyanobacteria and Microalgae, organized by Department of Microbiology in Alagappa University, Karaikudi. - **Best Poster Award**
11. Attended the “National seminar on Microbes in Women Health”, by Department of Microbiology, Bharathidasan University, Tiruchirappalli in collaboration with Trichy Obstetric and Gynaecological Society (TRIOGS), Tamil Nadu, India [11 – 12th July, 2019]
12. Attend a Training Programme on “Innovative Technology of Oyster Mushroom Cultivation for Self-Employment of Rural Population”, by Department of Microbiology, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India [18th – 21st February 2019]

### **ARTICLES PUBLISHED**

1. **Facial and Novel strategy for Methods of Extraction of Biofuel Grade Lipids from Microalgae- an experimental Report.** Edachery Baldev, Davoodbasha MubarakAli, Masalamani Kanimozhi, Shakena Fathima Thajuddin, Naif S. Alharbi, Chinnathambi Arunachalam, Sulaiman Ali Alharbi and Nooruddin Thajuddin. International Journal of Biotechnology for wellness Industries, 3, 121-127 (2014)
2. **Evaluation of Phytochemical and in Vitro Studies on Antioxidant, Anti- Diabetic Activities of *Gnetum ula*.** Seema S, Shakena Fathima T, Roselin Jenifer D, BeemaShafreen R and Palak Singh. Bull. Env. Pharmacol. Life Sci., Spl Issue [5]: 665-669 (2022).
3. **Bioconversion of Curcumin to Calebin-A by *Spirulina subsalsa* and its taxonomic resolution among other Oscillatoriales using 16S rRNA analysis.** Shakena Fathima T, John Adams S, Anju Majeed, Muralitharan G, Thajuddin N. Applied Biochemistry and Biotechnology 195:2933–2946. (2023)

4. **Suitability of Phycocyanin gene sequences for the identification of cyanobacterial taxa belonging to Oscillatoriales.** Shakena Fathima T, Fayaazuddin T, DhanveerAhamed B, Prakash P, Akilan E, AsrafSithikka, Muralitharan G, Thajuddin N. Biological Forum – An International Journal 15(6): 491-498(2023)
5. **Validation of 16S rRNA Sequences as a Tool for Taxonomy of Cyanobacteria with Reference to Nostoc and Oscillatoria.** Shakena Fathima T, Asraf Sithikka M. R, Fayaazuddin T, Dhanasekaran D, Muralitharan G and Thajuddin N. Research Journal of Agricultural Sciences Volume 15; Issue 01; pp 38–44 (2024).
6. **Diversity and growth conditions for Polyhydroxyalkanoate (PHA) production in phytoplankton community from freshwater habitats at Visakhapatnam, Andhra Pradesh, India (2024).** Fayaazuddin T, Arutselvan Chithirai, Shakena Fathima T, Thajuddin N, Muralitharan G and Dhanasekaran D. Algal Research. Volume 82, 103652.

#### **BOOK CHAPTERS**

1. Mathews Lurth Raj D, Shakena Fathima T, Ganesh Moorthy.I, Dhanasekaran.D, Shyam Kumar.R, Thajuddin.N. **Processed Lichens could be a potential functional food with special reference to traditional dishes**, Fermented Food Products, Sankaranarayanan, A., Amaresan, N. and D. Dhanasekaran (Editors), CRC Press, ISBN 9780367224226 - CAT# K421586 (2020)
2. Thajuddin Fayaazuddin, Palanivel Prakash, Thajuddin Shakena Fathima and Dharumadurai Dhanasekaran (2023) **Commercial Astaxanthin Production from Green Alga *Haematococcus pluvialis***. In. Food Microbiology Based Entrepreneurship: Making Money from Microbes (pp. 279-304). (Eds.) Natarajan Amaresan., Dhana Sekaran Dharumadurai., Olubukola Oluranti Babalola. Springer Nature Singapore. ISBN-13: 9789811950407. DOI: 10.1007/978-981-19-5041-4\_15
3. Shakena Fathima Thajuddin, Fayaazuddin Thajuddin, Thajuddin Nooruddin and Dhanasekaran Dharumadurai (2023) **Confocal Microscopic Identification of Toxic Cyanobacteria from Water. In. Protocols for Cyanobacteria Sampling and Detection of Cyanotoxin**. (Eds.) Thajuddin Nooruddin., Dhanasekaran Dharumadurai., Sankaranarayanan. A. Springer Nature Publications

4. Reehana, N., Imran, M.Y.M., Shakena Fathima Thajuddin and Thajuddin, N (2024). **Bioremediation of Wastewater Employing Microalgae. Algae Mediated Bioremediation: Industrial Prospectives**, 1, pp.145-164.

**WHOLE GENOME SEQUENCE SUBMITTED IN NCBI**

<b>CULTURE DETAILS</b>	<b>ACCESSION NUMBER</b>	<b>SUBMISSION</b>
<i>Oscillatoria amoena</i> NRMCF 0135	JASVEI000000000	WGS
<i>Geitlerinema calcuttense</i> NRMCF 0142	JASVEJ000000000	WGS
<i>Oscillatoria laete-virens</i> NRMCF 0139	JASVEK000000000	WGS
<i>Kamptonema cortianum</i> NRMCF 0138	JASNGF000000000	WGS
<i>Limnospira fusiformis</i> NRMCF 6962	SRX24710716	WGS

**SEQUENCES SUBMITTED IN NCBI**

<b>CULTURE DETAILS</b>	<b>ACCESSION NUMBER</b>	<b>SUBMISSION</b>
<i>Oscillatoria calcuttensis</i> NRMCF 0142	OM864324	16S rRNA Gene
<i>Oscillatoria earlei</i> NRMCF 0136	OM841488	16S rRNA Gene
<i>Oscillatoria earlei</i> NRMCF 0137	OM841510	16S rRNA Gene
<i>Oscillatoria amoena</i> NRMCF 0135	OM864323	16S rRNA Gene
<i>Oscillatoria acuta</i> NRMCF 48	OM867600	16S rRNA Gene
<i>Oscillatoria jasorvensis</i> NRMCF 0143	OM888661	16S rRNA Gene
<i>Oscillatoria splendida</i> NRMCF 0141	OM864322	16S rRNA Gene
<i>Oscillatoria cortiana</i> NRMCF 83	OM864282	16S rRNA Gene
<i>Oscillatoria cortiana</i> NRMCF 0138	OM864321	16S rRNA Gene
<i>Oscillatoria laetevirens</i> NRMCF 0139	OM864340	16S rRNA Gene
<i>Oscillatoria earlei</i> NRMCF 0140	OM841885	16S rRNA Gene
<u><i>Oscillatoria jasorvensis</i> NRMCF 0143</u>	OM984743	Phycocyanin Gene
<u><i>Oscillatoria laete-virens</i> NRMCF 0139</u>	ON759207.1	Phycocyanin Gene
<u><i>Oscillatoria acuta</i> NRMCF 48</u>	OM984742	Phycocyanin Gene
<u><i>Oscillatoria earlei</i> NRMCF 0137</u>	OM984740	Phycocyanin Gene

<i>Oscillatoria earlei</i> <u>NRMC-F 0136</u>	OM984739	Phycocyanin Gene
<i>Geitlerinema calcuttense</i> <u>NRMC-F 0142</u>	OM984738	Phycocyanin Gene
<i>Oscillatoria amoena</i> <u>NRMC-F 0135</u>	OM984738	Phycocyanin Gene
<i>Nostochopsis lobatus</i> <u>NRMCF1122</u>	PP550145.1	16S rRNA Gene
<i>Limnospira fusiformis</i> <u>NRMC-F 6962</u>	PQ047565.1	16S rRNA Gene
<i>Sphaerospermopsis reniformis</i> <u>NRMC-F 0403</u>	PP990622.1	16S rRNA Gene
<i>Leptolyngbya ramosa</i> <u>NRMC-F 0402</u>	PQ037618.1	16S rRNA Gene
<i>Mastigocladus laminosus</i> <u>NRMC-F 0401</u>	PP990621.1	16S rRNA Gene
<i>Leptolyngbya carnea</i> <u>NRMC-F 0404</u>	PQ068749.1	16S rRNA Gene