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St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)

St. Joseph's Group of Institutions

OMR, CHENNAI - 119

32 Years of Excellence

BIO VOICE

DEPARTMENT OF BIOTECHNOLOGY

NEWSLETTER

January 2026

About Us

The Biotechnology Department was incepted in the year 2002 and Accredited by NBA.

Having a state-of-art laboratory, the department offers both Bachelors and Ph.D courses which are affiliated with Anna University, Chennai

Vision

To provide a world-class department to facilitate learning, training and research in Biotechnology by providing infrastructural facilities and competent faculty leading to technological innovations to serve the global society

Mission

The Mission of the Department is to provide quality education to students and to produce competent Biotechnologists to meet the challenges faced by industry and mankind.

To inculcate high moral and professional standards among our students.

To develop the overall personality of the students.

STUDENT ACHIEVEMENTS

Academic Excellence: A Celebration of Hard Work and Dedication

Biotechnology students shine bright! With flying colors, they soar to new heights. Achieving CGPA above 8.5, their success is clear, A testament to dedication and hard work, year after year.

STUDENT ACHIEVEMENTS

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DEPARTMENT OF BIOTECHNOLOGY

Student Toppers Secured 8.5 CGPA and Above (Up to VII Sem)

BATCH 2022 – 2026

Ilakiya T
312322214018
8.69

Krithika V
312322214031
8.66

Hallina M
312322214015
8.63

Keerthana SL
312322214028
8.61

Srimathi P
312322214046
8.61

Akshaya A
312322214003
8.57

Keerthana A
312322214027
8.57

Joselin Reina J
312322214021
8.55

Kamushree T
312322214023
8.53

Ferlinsa J
312322214013
8.51

Harini S
312322214017
8.51

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The Choice of **Disciplined Toppers**

STUDENT ACHIEVEMENTS

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Student Toppers Secured 8.5 CGPA and above(up to V sem)

Batch 2023-2027 (III Year)

JAFFERIN D R
312323214020
9.77

HARSHITHA P
312323214019
9.69

NANDITA
312323214034
9.59

HARSHA D
312323214017
9.08

KARPAGAM R
312323214026
8.97

VARSHINI B
312323214057
8.92

MADEEHAH
312323214030
8.84

SOWMIYA M
312323214048
8.81

SUSMITHAA S
312323214051
8.79

VIJHAY KRISHNAA B
312323214059
8.78

KAVINDRA L
312323214027
8.63

KOWSHICA N
312323214029
8.57

ABIRAMI S
312323214001
8.56

NITHYASHREE P G
312323214035
8.56

SOUNDARYA S
312323214047
8.55

ANJANHA R
312323214005
8.55

STUDENT ACHIEVEMENTS

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BATCH 2024-2028 (II YEAR)

PRADEEPTHIKA K H
312324214039
9.55

RASHMIKA RAGHUNATH NAIR
312324214046
9.33

SMERA ATHIBAN
312324214053
9.18

SRI VIDYAA A B
312324214054
9.08

KEERTHANA R
312324214022
9.03

HARINI M
312324214016
8.97

PRIYADHARSHIKA M
312324214042
8.97

SABRIN H
312324214048
8.95

HARINI S R
312324214017
8.86

NETHRA SRINIVASAN
312324214032
8.84

ARUNA P
312324214006
8.81

ANGELIN ASHNA A S
312324214003
8.78

HARSHITHA R
312324214019
8.78

MONIKA S
312324214029
8.77

AKSHAYA S
312324214002
8.75

VARNIKA S
312324214059
8.70

ROSHIKA V
312324214047
8.68

SURIYA TEJAL S
312324214056
8.66

MERCY SHALIN A
312324214028
8.59

JOTHEESWARI G
312324214021
8.58

ADDLENE PONSIYA K
312324214001
8.56

NIVEDHITHA V S
312324214035
8.56

NITHYASHREE G
312324214034
8.53

SANDHIYA SIVARAMAN RAMESH
312324214050
8.52

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The Choice of **Disciplined Toppers**

NGO Visit by Our Students

Our third year recently embarked on a visit to Kalaivani Old Age Home, Madambakkam on 22nd January 2026

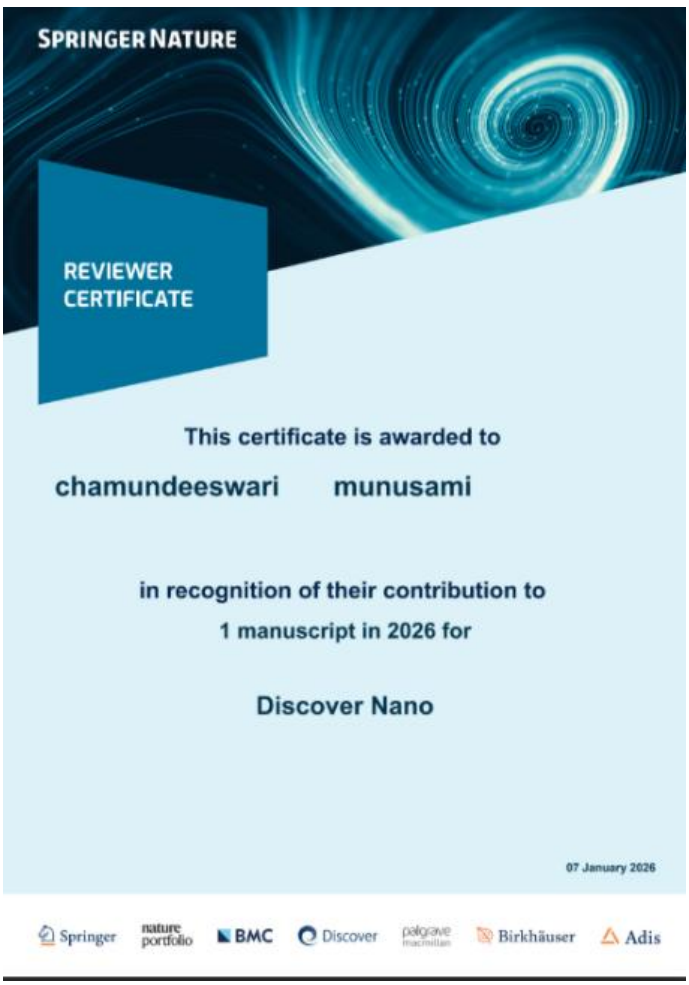
Poster Presentation

Our third year and second year students had actively participated in the poster presentation on "Emerging Plastic Contamination: A Risk to Blue Ecosystems and a Critical Challenge for Life Below Water"

STAFF ACHIEVEMENTS

Reviewer Certification

Dr. M. Chamundeeswari from the Department of Biotechnology has served as a reviewer for manuscripts in the journal Discover Nano and Environmental Processes in 2026, in recognition of her scholarly contribution



STAFF ACHIEVEMENTS

STAFF ACHIEVEMENTS

Patent Published

Ms. Anli Dino A and her students have published a patent entitled "Portable Biosensor For Detecting Food Spoilage Bacteria"

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :13/12/2025

(21) Application No.202541126218 A
(43) Publication Date : 02/01/2026

(54) Title of the invention : PORTABLE BIOSENSOR FOR DETECTING FOOD SPOILAGE BACTERIA

(51) International classification	:C12Q 1/04, G01N 27/327, G01N 33/02, G01N 33/569, C12Q 1/68	(71)**Name of Applicant :** **1)G ASHWIN PRABHU** Address of Applicant :No. 11, Thirumagal Nagar, II Street, Karthick Avenue, Flat No. F1, First Floor, "Sai Guru Appartments", Chitlapakkam Tamil Nadu India **2)Ms. Kereen Boaze. C** **3)Ms. Rakshana. R** **4)Mrs. A. Anli Dino**
(31) Priority Document No	:NA	(72)**Name of Inventor :** **1)Ms. Kereen Boaze. C** **2)Ms. Rakshana. R** **3)Mrs. A. Anli Dino**
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	: :01/01/1900	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number Filing Date	:NA :NA	
(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :

The present invention relates to a portable biosensor for rapid detection of food spoilage bacteria. Food contamination and microbial spoilage pose serious health risks and economic losses worldwide. Traditional detection methods, such as culture-based techniques and molecular assays, are accurate but time-consuming, expensive, and require laboratory infrastructure, making them unsuitable for on-site monitoring. The proposed portable biosensor integrates biorecognition elements, such as antibodies or enzymes, with electrochemical or optical transducers, allowing quick, sensitive, and specific detection of spoilage bacteria in various food products. The device is compact, user-friendly, and cost-effective, enabling real-time monitoring at production sites, retail stores, or households. Food spoilage caused by bacterial contamination poses a major risk to public health and leads to significant economic losses. Traditional methods for detecting spoilage bacteria are often time-consuming, and require laboratory facilities, which are unsuitable for rapid, on-site testing. To address these limitations, this project focuses on the development of a portable biosensor integrating microfluidic sample handling, sensitive signal transduction, and AI-based data analysis. The microfluidic module allows precise handling of small food samples, including filtration, bacterial concentration, and reagent mixing, ensuring efficient sample preparation. The sensor module employs specific biological recognition elements (such as antibodies or aptamers) to detect bacteria and convert their presence into measurable signals via electrochemical or optical transduction. These signals are then processed by an AI-based analysis system, which rapidly interprets complex patterns, identifies bacterial types, and predicts contamination levels. This innovation provides a practical solution for enhancing food safety, reducing the risk of foodborne illnesses, and minimizing food wastage. Its portability, rapid response, and reliability make it suitable for widespread adoption in the food industry and by consumers.

No. of Pages : 21 No. of Claims : 10

STAFF ACHIEVEMENTS

Patent Published

Dr. Poornimaa Mu and her students have published a patent entitled "Identification and Screening of Antineoplastic Secondary Metabolites from Bacillus licheniformis for Cancer Treatment"

Application Details	
APPLICATION NUMBER	202541123205
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	06/12/2025
APPLICANT NAME	1 . G ASHWIN PRABHU 2 . Ms. Theevika K 3 . Ms. Ferlinsa J 4 . Ms. Joselin Reina J 5 . Ms. Poornima Mu
TITLE OF INVENTION	Identification and Screening of Antineoplastic Secondary Metabolites from Bacillus licheniformis for Cancer Treatment
FIELD OF INVENTION	BIO-CHEMISTRY
E-MAIL (As Per Record)	ashwin.prabhu1990@gmail.com
ADDITIONAL-EMAIL (As Per Record)	mechanicalmotivator@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	02/01/2026

STAFF ACHIEVEMENTS

Patent Published

Dr. Poornimaa Mu and her students, Ms. Joselin Reina J, Ms. Ferlinsa J and Ms. Theevika K from the Department of Biotechnology have published a patent titled "Reverse Docking Study Unravels the Potential Human Targets of Ectoine and Auriculamide"

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :06/12/2025

(21) Application No.202541123204 A
(43) Publication Date : 02/01/2026

(54) Title of the invention : REVERSE DOCKING STUDY UNRAVELS THE POTENTIAL HUMAN TARGETS OF ECTOINE AND AURICULAMIDE

(51) International classification	:C12Q 1/68, G01N 33/50, C12Q 1/02, C12P 17/18, G01N 33/68
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)G ASHWIN PRABHU
Address of Applicant :No. 11, Thirumagal Nagar, II Street, Karthick Avenue, Flat No. F1, First Floor, "Sai Guru Appartments", Chitlapakkam Tamil Nadu India
2)Ms. Joselin Reina J
3)Ms. Ferlinsa J
4)Ms. Theevika K
5)Ms. Poornimaa Mu
(72)**Name of Inventor :**
1)Ms. Joselin Reina J
2)Ms. Ferlinsa J
3)Ms. Theevika K
4)Ms. Poornimaa Mu

(57) Abstract :
This invention presents an integrated computational approach for identifying the human targeting potential of two natural compounds, ectoine and auriculamide, obtained from the under explored bacterium Saccharopolyspora erythraea NRRL 2338. Although this strain is well known for erythromycin production, its secondary metabolites have not been studied in detail. Genome mining confirms the presence of a complete ectoine biosynthesis cluster and genetic signatures that support auriculamide production. ADMET analysis shows that both compounds have good absorption, low toxicity and safe pharmacokinetic behaviour. Reverse target prediction identifies eighty-five human protein targets for ectoine and two hundred ninety-nine targets for auriculamide. Many of these targets are involved in stress protection, immune balance, cell repair and tissue recovery. Reverse docking through CB Dock validates these findings, with ectoine showing stronger binding for twelve proteins and auriculamide showing stronger binding for two hundred sixty-four proteins compared to native ligands. These results present strong evidence that ectoine and auriculamide possess significant biological relevance. The invention establishes Saccharopolyspora erythraea NRRL 2338 as a valuable source of multifunctional natural compounds with potential applications in medicine, cosmetics and environmentally responsible technologies.
No. of Pages : 10 No. of Claims : 10

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