

SRI SANKARA ARTS & SCIENCE COLLEGE

ENATHUR, KANCHIPURAM

STAFF PROFILE

PG AND RESEARCH DEPARTMENT OF BIOTECHNOLOGY

1.	Name of the Staff	Dr. A. Rajalakshmi, M.Sc., Ph.D., ADBI.,
2.	Designation	Assistant Professor
3.	Date of Joining	18.07.2022
4.	Mobile Number	+91 9952122766
5.	E-Mail ID	rajalakshmi@sankaracollege.edu.in raji.biotech98@gmail.com
6.	Nationality	Indian
7.	Academic Qualification	M.Sc., ADBI., Ph.D.,
8.	Field of Specialization	Microbial Biotechnology Bioinformatics Computational Biology
9.	Ph.D Thesis Title	Magnetosome nanoparticles from freshwater magnetotactic bacteria: isolation, characterization, and application studies.
	Awarding University,	University of Madras

10. Work Experience (in chronological order):

S.No.	Name of the Institution	Designation	Period
1	Sri Sankara Arts and Science College (Autonomous), Kanchipuram	Assistant Professor	July, 2022 to Till date
2	Sri Sankara Arts and Science College (Autonomous), Kanchipuram	Faculty, Centre for Computer-Aided Drug Design and Discovery (CADDD)	July, 2022 to Till date
3	Victoria Matriculation Higher Secondary School, Kanchipuram	Teacher and Subject Coordinator	June, 2013 to December, 2016

11. Publications:

1. **Arumugam Rajalakshmi**, Manickam Ramesh, Rengarajan Sai Thanga Abirami, Kuppaswamy Kavitha, Gopal Suresh, Vadivel Prabakaran, Rengarajulu Puvanakrishnan, Balasubramanian Ramesh (2024) Discovery of antibacterial biogenic magnetosome nanoparticles from *Providencia* sp. MTBPRB-1: Screening, purification and characterization. *Journal of Biosciences*. 49(2): 54. <https://doi.org/10.1007/s12038-024-00440-z> [Impact Factor: 2.1]
2. Manoharan Harini, Kuppaswamy Kavitha, Vadivel Prabakaran, Anandan Krithika, Shanmugam Dinesh, **Arumugam Rajalakshmi**, Gopal Suresh, Rengarajulu Puvanakrishnan, and Balasubramanian Ramesh (2024) Identification of apigenin-4'-glucoside as bacterial DNA gyrase inhibitor by QSAR modeling, molecular docking, DFT, molecular dynamics, and in vitro confirmation studies. *Journal of Molecular Modeling*. 30:22. <https://doi.org/10.1007/s00894-023-05813-z> [Impact Factor: 2.2]
3. Kuppaswamy Kavitha, Selvaraj Bharathi, **Arumugam Rajalakshmi**, Manickam Ramesh, Perumal Padmini, Gopal Suresh, Veerasamy Guruchandran, Mani Prakash, Rengarajulu Puvanakrishnan, and Balasubramanian Ramesh (2023) Selenium nanoparticles stabilized by fungal chitosan with antibacterial activity – synthesis and characterization. *Particulate Science and Technology*. <https://doi.org/10.1080/02726351.2023.2237438> [Impact Factor: 2.5]

4. Elamaran Anjukam, Manickam Ramesh, **Arumugam Rajalakshmi**, Kuppuswamy Kavitha, Mani Prakash, Gopal Suresh, Rengarajulu Puvanakrishnan, Balasubramanian Ramesh (2023) Molecular characterization of potent antibacterial compound 4-(3-methylazetididin-1-yl)pentan-2-ol from *Calophyllum inophyllum* seed oil. Biocatalysis and Agricultural Biotechnology. 4:102617. <https://doi.org/10.1016/j.bcab.2023.102617> [Cite Score: 8.4]
5. Manickam Ramesh, Kuppuswamy Kavitha, **Arumugam Rajalakshmi**, Elamaran Anjukam, Vadivel Prabakaran, Mani Prakash, Rengarajulu Puvanakrishnan, Balasubramanian Ramesh (2022) 4a-methyl-dodecahydro-1H-pyrrolo[3,4-b]quinoline-6-one produced by endophytic fungi *Aspergillus niger* E12 obtained from *Dodonaea viscosa* plant leaves as a novel antibacterial compound. Applied Biochemistry and Biotechnology. 194 (11): 5132-5150. <https://doi.org/10.1007/s12010-022-03988-4> [Impact Factor: 3.094]
6. **Arumugam Rajalakshmi**, Elamaran Anjukam, Manickam Ramesh, Kuppuswamy Kavitha, Rengarajulu Puvanakrishnan, Balasubramanian Ramesh (2022) A novel colorimetric technique for estimating iron in magnetosomes of magnetotactic bacteria based on linear regression. Archives of Microbiology. 204:282. <https://doi.org/10.1007/s00203-022-02901-1>. [Impact Factor: 2.667]
7. **Arumugam Rajalakshmi**, Manickam Ramesh, Ellappan Divya, Kuppuswamy Kavitha, Rengarajulu Puvanakrishnan, Balasubramanian Ramesh (2021) Production and characterization of naturally occurring antibacterial magnetite nanoparticles from magnetotactic *Bacillus* sp. MTB17. Journal of Applied Microbiology. 132(4): 2683-2693. <https://doi.org/10.1111/jam.15395> [Impact Factor: 4.059]
8. Arunagirinathan Koodalingam, **Arumugam Rajalakshmi**, Ezhumalai Parthiban (2021) Cytotoxicity and anti-inflammatory effects of polyherbal formulations, Joint Pain Spl and Rumalaya Forte on lipopolysaccharide induced inflammation in IC-21 macrophages. Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry. 20(3):290-301. <https://doi.org/10.2174/1871523019999210104203252>. [Impact Factor: 2.065]

9. Koodalingam A, Deepalakshmi R, Ammu M, **Rajalakshmi A** (2014) Effects of NeemAzal on marker enzymes and hemocyte phagocytic activity of larvae and pupae of the vector mosquito *Aedes aegypti*. *Journal of Asia-Pacific Entomology*. 17(2):175–181. <https://doi.org/10.1016/j.aspen.2013.12.007>. [Impact Factor: 1.580]
10. Koodalingam A, Mullainadhan P, **Rajalakshmi A**, Deepalakshmi R, Ammu M (2012) Effect of a Bt-based product (Vectobar) on esterases and phosphatases from larvae of the mosquito *Aedes aegypti*. *Pesticide Biochemistry and Physiology*. 104(3):267-272. <https://doi.org/10.1016/j.pestbp.2012.09.008>. [Impact Factor: 4.966]

13. Awards / Distinction:

S.No.	Name of the Award	Venue	Period
1.	Research Fellowship for Research Scholars (RFRS)	Tamil Nadu State Council for Science and Technology (TNSCST)	March, 2020- March, 2022
2.	NPTEL Domain Star in Computational Biology	NPTEL	October, 2022
3.	NPTEL Discipline Star	NPTEL	Jan-Apr, 2022
4.	Summer Research Fellowship	Indian Academy of Sciences (IASC-INSA-NASI) at L V Prasad Eye Institute, Hyderabad	May-July, 2012
5.	University Rank III	University of Madras	2013
6.	university Rank IV	University of Madras	2011
7.	P. Neelakanta Iyer Proficiency Prize	Sri Sankara Arts & Science College (B.Sc., Biotechnology)	2011

14. Membership in Professional Bodies:

- Member, Research and Development Council, Sri Sankara Arts and Science College (Autonomous), Enathur, Kanchipuram.

15. Seminars Conferences organized /Presented/Participated:

S. No	Name of the Program	Place	Organized/ Presented/ Participated/	Period
1	National conference on “Biotechnological Advances in Biomedical, Environmental and Agricultural Technology”	Hindustan College of Arts & Science, Chennai	Presented	13 th February, 2024
2	2 nd International conference on “Molecular Basis of Cancer & Prevention”	PRIST University, Thanjavur	Presented	7 th -8 th February, 2024
3	International conference on “Unraveling Therapeutic Resources from Nature’s Treasure”	Mohamed Sathak College of Arts and Science, Chennai	Presented	21 st -22 nd September, 2023
4	Two Day National Conference on “Biotechnology for Sustainable Agriculture and Healthcare (NCBSAH-2023)	School of Biotechnology, Madurai Kamaraj University, Madurai	Presented	23 rd -24 th March, 2023
5	International conference on “Research, Innovations and Entrepreneurial Venues - An Outlook” (ICAB - 2022)	PG Department of Biotechnology, Dwaraka Doss Goverdhan Doss Vaishnav college (Autonomous), Chennai	Participated	19 th -20 th October, 2022
6	International Conference on Pharmaceutics & Novel Drug Discovery	Sathyabama Institute of Science and Technology, Chennai	Presented	21 st -23 rd April, 2022
7	National e-Conference on Bioprospecting of Marine derived metabolites for promising biotechnology applications: Current and future prospects (BMDM-2021)	Sathyabama Institute of Science and Technology, Chennai	Presented	29 th -31 st December, 2021
8	National Conference on Applications of Computational Biology in Omics (ACBO-18)	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Participated	11 th -12 th October, 2018
9	National seminar on Emerging trends in Microbial Biotechnology (DBT sponsored)	Kanchi Shri Krishna College of Arts & Science, Kanchipuram	Presented	20 th -21 st February, 2013

10	Novel Innovations in Nanotechnology (Techblast-2012)	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Presented	15 th -16 th February, 2012
11	National Seminar on Frontiers in Life Science	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Presented and won I prize	11 th January, 2012
12	National Seminar on Enzymes and Bio catalysis, The Versatile Actors: Current Trends and Future Perspectives (NSEB 2012)	Periyar University, Salem	Presented	5 th -6 th January, 2012
13	National seminar on recent advances in Microbial Biotechnology	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Participated	6 th December, 2011
14	National conference on recent scenario in biological innovations	Hindustan college of Arts & Science, Coimbatore	Presented	3 rd -4 th February, 2011
15	Nanotechnology (Techblast-2011)	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Presented and won II prize	27 th January, 2011
16	One day seminar on Nanobiotechnology	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Presented and won III prize	18 th August, 2010

16. Participated as Resource Person:

Nil

17. Workshop & Training Programmes:

S. No	Name of the Workshop	Place	Organized/ Participated	Period
1	National Science Academies Lecture Workshop on Biotechnology- Principles and Practice [Sponsored and supported by Indian Academy of Sciences (IASc)-Bengaluru, Indian National Science Academy (INSA)-New Delhi, The National Academy of Sciences, India (NASI)-Prayagraj]	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Organizing Committee	10 th -11 th August, 2022

2	National Level Virtual workshop on “Molecular Modelling and Docking (NWMMD-2022)	Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai	Participated	7 th -8 th January, 2022
3	Training programme on Creation of Scientific Awareness (CSA-19) for farmers, self-help groups and students [Catalyzed and supported by Tamilnadu State Council for Science and Technology (TNSCST), Chennai]	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Participated	13 th -15 th February, 2019
4	Workshop and Hands-on training on Stem Cell Research and Techniques by Labmate Asia Pvt. Ltd, Chennai	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Participated	14 th December, 2018
5	Workshop on Microscopy and Photomicrography	D.G.Vaishnav College, Chennai	Participated	27 th September, 2011
6	Inter departmental model presentation on Self-employment for Biotechnologist	Sri Sankara Arts and Science College, Enathur, Kanchipuram	Participated	14 th October, 2010

18. Projects completed

S.No.	Title	Funding Body	Amount
1.	Isolation and characterization of magnetosomes from anti-corrosive magnetotactic bacteria	Tamilnadu State Council for Science and Technology (TNSCST), Chennai (RFRS-2019-20)	Rs.3,00,000

2.	Cloning of PAX6 promoter into the lentiviral vector pHR-SIN	Indian Academy of Sciences (IASC- INSA-NASI) at L V Prasad Eye Institute, Hyderabad (Summer Research Fellowship)	Rs.14000
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19. Students Project Guided:

- Virtual screening for novel antifungal compound from plant source against lanosterol 14 α demethylase and *in vitro* confirmation studies (Catalyzed and supported by Tamilnadu State Council for Science and Technology (TNSCST), Chennai) – M.Sc., project, 6 months
- Virtual screening of novel anti-bacterial compound against bacterial DNA gyrase from plant source and it's *in vitro* confirmation studies - M.Sc., project, 6 months
- Virtual screening for novel anti-larval compound from green sources against acetylcholinesterase of mosquito and *in-vitro* confirmation studies (Catalyzed and supported by Tamilnadu State Council for Science and Technology (TNSCST), Chennai) – M.Sc., project, 6 months

20. Patents

Provisional patent Number **202141057967** Dt. 13/12/2021: Use of Magnetotactic Bacteria as an Anti-Corrosive Agent – Dr. B.Ramesh and Mrs.A.Rajalakshmi.

21. Any other Details:

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SCOPUS ID	57195352135 https://www.scopus.com/authid/detail.uri?authorId=57195352135
GOOGLE SCHOLAR	https://scholar.google.com/citations?user=WWZZpBOAAAAJ&hl=en&oi=ao
VIDWAN	319297

GenBank Submissions:

Accession Numbers: OP326100, OP326101, OP326102, OP326104, OP326105, OP3415414, OP473944, OP566862

Certificate courses completed

S.No.	Course Name	Venue	Year	Percentage
1.	Advanced Diploma in Bioinformatics (ADBI)	Sri Sankara Arts and Science College, Enathur, Kanchipuram	2011	93%
2.	Aptech Certified Computer Professional (Web Development)	APTECH, Kanchipuram	2010	'A' grade
3.	Diploma in Computer Applications (DCA)	CSC, Kanchipuram	2008	'A' grade

NPTEL certificate courses completed

S.No	Course	Year	Percentage
1.	Introduction to Proteogenomics	Jul-Oct, 2022	69%
2.	Data Analysis for Biologists	Feb-Apr, 2022	70%
3.	Bioinformatics: Algorithms and Applications	Jan-Apr, 2022	63%
4.	Introduction to Dynamical Models in Biology	Aug-Sep, 2021	50%

5.	Programming, Data Structures and Algorithms using Python	Jul-Sep, 2021	65%
6.	Functional Genomics	Sep-Oct, 2020	93%
7.	Experimental Biotechnology	Sep-Dec, 2020	79%
8.	Introduction to R Software	Sep-Nov, 2020	81%
9.	Introductory Mathematical Methods for Biologists	Feb-Apr, 2019	80%
10.	Biostatistics and design of experiments	Aug-Oct, 2018	58%
11.	Computer Aided Drug Design	Aug-Sep, 2018	69%