



SHRIMATI INDIRA GANDHI COLLEGE

(Affiliated to Bharathidasan University)

Nationally Accredited at 'A' Grade (4th Cycle) by NAAC | An ISO 9001 : 2015 Certified Institution
Tiruchirappalli - 620 002

Name : Dr. B. Roja
Designation : Assistant Professor & Head
Department : Biotechnology
Qualification : M.Sc., DMLT., Ph.D.,
Experience : Teaching: 08 Research: 07
Area of Specialization(s) : Biotechnology, Molecular Biology, Drug Discovery,
Systems Biology
Email (Official ID) : roja@sigc.edu
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Academic Qualifications

Degree	Branch	Institution/UniversityName	Year of Graduation
Ph.D	Biotechnology	Bharathidasan University, Trichy.	2023
M.Sc.,	Biotechnology	Srinivasan College of Arts and Science, Perambalur. Affiliated to Bharathidasan University, Trichy.	2015
B.Sc.,	Biotechnology	Srinivasan College of Arts and Science, Perambalur. Affiliated to Bharathidasan University, Trichy.	2013

Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University / Agency Name	Year
Diploma	Diploma in Laboratory Technology (DMLT)	Universal Board of Alternative Medicines, Chennai.	2012

Research Publications (Indexed)

International

1. **B. Roja**, P. Chellapandi (2023) Design and characterization of a multi-epitope vaccine against *Clostridium botulinum* A3 Loch Maree intoxication in humans. Gene: 892:147865. (IF: 3.913) (Scopus indexed).
2. **B. Roja**, S. Saranya, P. Chellapandi (2023) Discovery of novel virulence mechanisms in *Clostridium botulinum* type A3 using genome-wide analysis. Journal of Gene : 147402. . (IF: 3.913) (Scopus indexed).
3. R. Sasikumar, L. LourduLincy, S. Saranya, **B. Roja**, L. Thamanna, AnishSathyan, P.Chellapandi (2024) Field trial evaluation of sensor-based aquaculture automation for improved biofloc shrimp culture. Journal of Water Process Engineering. 64- 105661 (IF: 7) (Scopus indexed).
4. **B. Roja**, R. Prithiviraj, S. Saranya, P. Chellapandi (2024) Functional prediction and assignment of *Clostridium botulinum* type A1 operome: A quest for prioritizing drug targets. Medicine in Omics (Accepted) (Scopus indexed).
5. **B. Roja**, S Saranya, L Thamanna, P Chellapandi (2023) Inferring molecular mechanisms of host-microbe- drug interactions in the human gastrointestinal tract. Medicine in Omics: 100027. (Scopus indexed).
6. **B. Roja**, R. Sasikumar and P Chellapandi (2023) Development of dietary multi-strain probiotics on banana peelpowder for sustainable shrimp aquaculture in India. Research Journal of Agricultural Sciences 14 (01): 178–182. (IF: 4.633) (Scopus indexed).
7. **B. Roja**, L.Thamanna and P. Chellapandi (2023) Reconstruction and analysis of the transcriptome regulatory network of *Clostridium botulinum* type A3 str. Loch Maree. Asian Journal of Microbiology, Biotechnology and Environmental Science. (IF: 5.00) (SCOPUS EMBASE).
8. **B. Roja**, P. Gajalakshmi, K. Rajesh, Nitha V Ravi, Gayathri (2021) Antioxidant Anti-Bacterial and Anti – Inflammatory Activity of with Aniya Somnifera International journal of life science and pharma research. 2250 – 0480: 76-81. (IF: 0.106) (WEB OF SCIENCE).
9. Nitha V Ravi, K. Rajesh, **B. Roja** (2021) A Review on Antibiotic Resistance in Urinary Tract Infections. International journal of life science and pharma research. 2250 – 0480: 82-85. (IF: 0.106) (WEB OF SCIENCE).

10. Prisilla, M. Deena Remin, **B. Roja**, P. Chellapandi (2019) A human–food web–animal interface on the prevalence of food-borne pathogens (*Clostridia* and *Enterococcus*) in mixed veterinary farms. Food science and biotechnology 28 (5), 1583-1591. (**IF: 2.9**)(Scopus indexed).

National

1. **B. Roja**, C. Sangavai, A. Raja, R. Karthik (2019) Green Synthesis of Silver Nanoparticles Using Ginger Extract and Its Antioxidant (In Vitro) And Anticancer (Insilico) Study. Scholar: National School of Leadership 8 (2.2). 2019
2. **B. Roja**, C. Sangavai, K. Manjula, R. Mahadevi (2019) Growth and Characterization of Calcium Hydrogen Phosphate Dihydrate Urinary Stone and Inhibitory Effect of Juice and Seed of *Vitis vinifera*. Scholar: National School of Leadership 8 (2.2).
3. **B. Roja**, M. Haseena, K. Shanmathi, R. Shree Vaishnavi (2019) Impact of Thermogram and Mammogram as an Early Diagnostic Tool for Breast Cancer Scholar: National School of Leadership 8 (2.2).
4. **B. Roja**, V. Mahesh Priya, E. Angel Jemima, C. Muthusamy (2019) Preparation of Polyherbal Formulation for Common Cold and Toxicity Analysis in Zebra Fish Model Scholar: National School of Leadership 8 (2.2).
5. **B. Roja**, T. Banumathi, M. Haseena, G. Praveena, R. Shree Vaishnavi (2019) Impact of Human Papilloma Virus in Indian Women Scholar: National School of Leadership 8 (2.2).
6. **B. Roja**, M. Karuppaiya, C. Sangavai (2019) Assessment of In vitro Propagation and Conservation of *Swertia chirayata*. Scholar: National School of Leadership 8 (2.2).
7. **B. Roja**, C. Sangavai, M. Karuppaiya (2019) Industrial Application of Marine *Actinobacteria* from Mangrove Sediment. Scholar: National School of Leadership 8 (2.2).

Book Publications

1. **B. Roja**, (2024) Virulence Mechanisms of *Clostridium botulinum* A3 on Human Gut. Lambert Academic Publishing. **ISBN: 978-620-8-17166-7**

Participation in Conference

International:

- **Presented paper** in two days International conference on “**Innovations and Challenges in Contemporary Agriculture, Science, and Engineering (ICCASE-2024) (Hybrid Mode)**”, **07.11.2024-08.11.2024**. Conducted by Department of Microbiology, Rathinam College of Arts And Science University in Coimbatore, Tamil Nadu.

- Presented **paper** in two days International conference on “Research Trends, Strategies and Technical Advancements in Biological and Biomedical Sciences for Sustainability - RTSTA'22 (Hybrid Mode)” Conducted by Department of Zoology, Seethalakshmi Ramaswami College, Trichy.
- Attended two days conference on “**Modelling and Tackling Complex Biological Systems**” Conducted by department Mathematical Sciences (IMSc), Chennai.

National:

- Presented **paper** in **DBT, Ministry of Science & technology, Government of India** Sponsored two days national conference on “Post Covid-19 Complications – A Biotechnological approach (PCBA'22)” Conducted by Department of Biotechnology, Jamal Mohamed College, Trichy.

Participation in Seminars

- Attended one day “**International Seminar on Advanced Materials for Sustainable Development for Energy Applications**”, **09.11.2024**. Conducted by Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai –600089, Tamil Nadu.
- Attended one day Seminar on “ICT TOOLS (SERIES-6)”, **04.12.2024**. Conducted by Academic Staff College, Dr.M.G.R. Educational and Research Institute.
- Attended one day seminar on “Trends in stem cell therapy” Conducted by department of Microbiology and Biotechnology, Srinivasan college of Arts and Science, Perambalur.
- Attended one day seminar on “Trends in Bio-Informatics” Conducted by department of Microbiology and Biotechnology, Srinivasan college of Arts and Science, Perambalur.

Participation in Workshop

- Attended One-Day Workshop on “**Real Time - PCR**”, 24.10.2024 Conducted by Sri Ramachandra Innovation Incubation Centre, Sri Ramachandra Higher Education and Research, Chennai.
- Attended UGC-RUSA 2.0 Sponsored Two-Day National Seminar Cum Workshop on “**Biochar Innovation: Techniques for a Greener Future**” from 30.09.2024 to 01.10.2024 Conducted by Department of Environmental Science and Management and Department of Biotechnology, Bharathidasan University, Tiruchirappalli.
- Attended one day workshop on “Artificial Intelligence (AI) - assisted scientific writing and publishing” Conducted by department of Botany, PSG College of Arts and Science is a College of Arts and Sciences, Coimbatore.

Participation in Faculty Development Programme

- Attended Seven days Faculty Development Programme on “Understanding Outcome Based Education” from 15.06.2024 to 15.06.2024 & 18.06.2024 Conducted by IQAC of Shrimati Indira Gandhi College, Trichy.

Conference/Seminar/Workshop Organized

- Organized (**Organizing Secretary**) International Conference on “Engineering Interdisciplinary Approaches in Biological Science for Innovative Research” - ICIBIR – 2024”, Shrimati Indira Gandhi College, Trichy. – 2.04.2024.
- Organized (**Co-Organizing Secretary**) National Conference on “Engineering in Biological Applications- 2024”, Bharathidasan University, Trichy. – 12.04.2024.
- Organized (**Co-Organizing Secretary**) National Level Farmer Training Program on “Automatic Biofloc Shrimp Cultivation” NFTABSC-2023 Organized by Department of Bioinformatics, Bharathidasan University, Tiruchirappalli-24 & C-DAC, Trivandrum- 31.03.2023.
- Organized (**Organizing Committee**) International Seminar on “Recent trends in Biological Science”, Dhanalakshmi Srinivasan College of Arts and Science for Women (A), Perambalur – 15.02.2019.
- Organized (**Organizing Committee**) International Seminar on “Cancer Research”, Dhanalakshmi Srinivasan College of Arts and Science Women (A), Perambalur – 23.01.2020.

Invited Speaker/Session Chair-Conference/Seminar/Workshop

- Acted as Recourse Person in National Level Farmer Training Program on “Automatic Biofloc Shrimp Cultivation” NFTABSC-2023 Organized by Department of Bioinformatics, Bharathidasan University, Tiruchirappalli-24 & C-DAC, Trivandrum

Editorial/Review Board Member

- Reviewer in Research journal of Pharmacy and Technology

Awards/ Honors

Awards/ Honors	Agency/ Institute	Year of Award
Young Scientist Award	VDGOOD Technology Factory, Salem	2021
Innovation Excellence Award	American Association of Higher Education & Accreditation	2021