



Dr. R. BRINDHA
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Department of Biotechnology
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RESEARCH AREA

- ✚ Design and development of integrated Bio-chemo reactor system.
- ✚ Advanced Oxidative Process.
- ✚ Chemical reaction kinetics.
- ✚ Toxicity studies in different models.

EDUCATIONAL QUALIFICATIONS

- | | |
|-------------|---|
| 2010 - 2018 | Doctorate in Philosophy (Ph.D.)
Faculty of Technology
<i>Anna University, Chennai, TN, INDIA</i>
Thesis : Degradation of monoazo dye Mordant Yellow 10 using sequential anaerobic biodegradation/photo-Fenton process
Supervisor: Dr. P. Rajaguru |
| 2006 - 2008 | Masters in Technology (M.Tech)
Industrial Biotechnology
<i>Sastra University, Thanjavur, TN, INDIA.</i> |
| 2002 - 2006 | Bachelors in Technology (B.Tech)
Industrial Biotechnology,
<i>Government College of Technology (GCT), Coimbatore, TN, INDIA</i> |

EXPERIENCES

- 2009 – Till date **Assistant Professor**
University college of engineering, BIT-Campus
- 2008 - 2009 **BCIL Trainee**
Operon Biotech, Tidel Biopark, Chennai

SPONSORED RESEARCH ACTIVITIES

- | | | |
|-------------------|---|---|
| Jan 2023-Jan 2026 | Mobilized
(Rs.in Lakhs)
34,20,318 | Title: Utilization of iron ore mine tailings and soil scape biofilters for the abatement of antibiotics in pharmaceutical wastewater (PI)
DST – SERB CRG |
| May 2017-May 2020 | Mobilized
(Rs.in Lakhs)
31,17,200 | Sequential anaerobic solar photo-Fenton process for effective treatment of textile effluents (Co-PI)
DBT – River cleaning project. |

AWARDS

- ♦ Won third prize in Environ Solver Hackathon conducted by Tamil Nadu Pollution Control Board at 2023.
- ♦ Selected for Young Faculty Research Support Scheme by TEQIP II at 2015.
- ♦ Selected as sponsored trainee by Biotech Consortium of India Ltd, DBT, New Delhi from Nov 2008 to May 2009
- ♦ Central Institute for research on cotton technology has appreciated the M. Tech project.
- ♦ Various Merit scholarships at M.Tech level.
- ♦ Qualified in **GATE- '10** with **91.02** percentile score (National Level Exam)
- ♦ Awarded Chief Minister Merit scholarship by Government of Tamil Nadu in the year of 2000-2001.

LIFE MEMBERSHIP OF SCIENTIFIC AND PROFESSIONAL SOCIETIES

- ♦ Indian Society of Technical Education

REVIEWER IN INTERNATIONAL JOURNALS

- ◆ Fibers and Polymers.
- ◆ Springer Proceedings (CHEMCON)

COMPLETED B.TECH/M.TECH PROJECTS

- ◆ Number of M. Tech Projects Completed: 11 Number of B. Tech Project Completed: 52

PhD RESEARCH PROJECTS (ONGOING)

- ◆ J. Jennet Debora
Topic: Bio-Chemo degradation of Pharmaceutical wastewater

FUNDED STUDENT PROJECTS

- Insitu generation of hydrogen peroxide by *Lactobacillus acidophilus* for photo fenton degradation of aromatic amines - Students projects scheme from TEQIP -II during 2015-2016.
- Fabrication of microbial fuel cell for azo dye treatment and electricity production- Students projects scheme from TEQIP -II during 2014-2015.

PUBLICATIONS

Book Chapters:

S. No.	Authors	Title of the Book chapter	Publisher and ISBN No
1.	K. Ravi Shankar, V. Theresa, R. Brindha, S. Renganathan	“Bioprocessing for Enhanced Biological Textile Wastewater Treatment” Bioprocess Engineering for a Green Environment (2018), PP 99-130	Taylor & Francis, CRC press 9781315232379
2.	K. Ravi Shankar, R. Brindha	“Fed-batch fermentation of <i>Bacillus subtilis</i> AKRS3 for efficient production of alkaline protease using different feeding strategies” in Hand book on Molecular and analytical techniques in Biotechnology, (2016)	SELP Publication, Tiruchirappalli. 978-93-80509-82-2

LIST OF PUBLICATIONS (ONLY SCOPUS INDEXED JOURNAL PUBLICATIONS WITH IMPACT FACTOR)

1. Mohana Priya E, Geetha S, Rajeswari S, Jennet Debora, Vijayalakshmi V, Gracy Angel K, **Brindha R***. 2025. Identifying the major research trends in Algae Polysaccharides: A scientometric analysis from 1989 to 2023. *Biologia*. **Under Press**
2. Yeswanth R, Saayaa N, Ravi Shankar K, Yuvaraj D, Vijayalakshmi V, Lenita S, **Brindha R***. 2024. Understanding integrative approach of translational bioinformatics on cardiovascular disease: Myocardial Ischemia. *Egyptian Journal of Medical Human Genetics*, 25:153. DOI: 10.1186/s43042-024-00622-2. **Impact factor: 1.2**
3. Jennet Debora, J., Vijayalakshmi, V., Rajaguru, P., Rajeswari, S. and **Brindha, R***, 2024. Antibiotic Resistance Genes—An Emerging Genetic Pollutant of LFL. *Water Air Soil Pollut*, 235(348), p.348. DOI: <https://doi.org/10.1007/s11270-024-07172-8>
Impact factor: 2.9
4. **Brindha R***, Rajeswari S, Jennet Debora J, Rajaguru P. 2022. Evaluation of global research trends in photocatalytic degradation of dye effluents using scientometrics analysis. *Journal of Environmental Management*, 318:115600. DOI: 10.1016/j.jenvman.2022.115600. **Impact factor: 8.91**
5. **Brindha R**, Jennet Debora J Rajaguru P. 2023. Analysis of batch kinetic data of biodecolorization reaction: a theoretical approach for the design of packed bed reactor. *Journal of Environmental Engineering*, 149, 10. DOI: 10.1061/JOEEDU.EEENG-7269
Impact factor: 2.479
6. Anuja E., Pramothkumar A., **Brindha R.**, Vetha Potheher I. 2022. Pure and Al-Bi Co-doped SnO₂ Nanoparticles as Bacterial Growth Inhibitors. *Toxicological & Environmental Chemistry*, DOI: [10.1080/02772248.2022.2117361](https://doi.org/10.1080/02772248.2022.2117361)
Impact factor: 1.56
7. **Brindha, R.**, Santhosh, S. and Rajaguru, P., 2019. Integrated bio-chemo degradation of Mordant Yellow 10 using upflow anaerobic packed bed reactor (UAPBR) and tray type photo-Fenton reactor (TPFR). *Journal of Cleaner Production*, 208, pp.602-611. DOI: [10.1016/j.jclepro.2018.10.158](https://doi.org/10.1016/j.jclepro.2018.10.158)
Impact factor: 11.07
8. **Brindha, R***, Narayana, C. K., Vijayalakshmi, V., and Nachane, R. P. 2019. Effect of different retting processes on yield and quality of banana pseudostem fiber. *Journal of Natural Fibers*, 16(1), pp.58-67. DOI: [10.1080/15440478.2017.1401505](https://doi.org/10.1080/15440478.2017.1401505)
Impact factor: 3.5
9. **Brindha, R.**, Muthuselvam, P., Senthilkumar, S. and Rajaguru, P., 2018. Fe⁰ catalyzed photo-Fenton process to detoxify the biodegraded products of azo dye Mordant Yellow 10. *Chemosphere*, 201, pp.77-95. DOI: [10.1016/j.chemosphere.2018.02.151](https://doi.org/10.1016/j.chemosphere.2018.02.151)
Impact factor: 8.94
10. Dino, A. A., **Brindha, R.**, Jayamuthunagai, J., and Bharathiraja, B. 2019. Biodegradation of aniline from textile industry waste using salt tolerant *Bacillus firmus* BA01. *Engineering in Agriculture, Environment and Food*, 12(3), pp.360-366. [10.1016/j.eaef.2019.04.003](https://doi.org/10.1016/j.eaef.2019.04.003)

INTERNATIONAL CONFERENCE PARTICIPATED

- ◆ Presented research paper titled “Biological Nitrogen Removal Using Banana Pseudostem as Sustained Release Carbon Source and Biofilm Carrier” at the International Conference on Innovations in Biotechnology for Sustainability, November 23-25, 2024, Jawaharlal Nehru University (JNU), New Delhi, India.
- ◆ Presented a paper in the International conference on “Bioprocessing India 2017” during December 9 – 11, 2017, at IIT Guwahati, Assam.
- ◆ Participated an International Conference on Biotechnology & Global warming (ICBGW) 2011 held on March 10-12, at Vivekanandha College for Women.

NATIONAL CONFERENCE PARTICIPATED

- ◆ Presented a paper in the Eighth National Conference on “Optimization Techniques in Engineering Sciences and Technologies” during April 19 – 20, 2013, at Bannari Amman Institute of Technology, Erode.
- ◆ Participated a national conference on “Environment Biodiversity and Bioethics – Current trends and future perspective 2012” held on 23th and 24th of March at Annamalai University, Chidambaram.

PROFESSIONAL ACTIVITIES

Guest Lecture Delivered:

- ◆ Lecture on “Bioprocessing in Heterogeneous systems and Downstream Processing” at Department of Biotechnology, Karpagam academy higher education, Coimbatore on October 6th, 2017.
- ◆ Lecture on “Fermentation of Food Products” at Department of Biotechnology, Bharathidasan University, Tiruchirappalli on October 25th, 2024.
- ◆ Lecture on “Empowering youth towards sustainable development” at J.J. College of Arts and Science (Autonomous), Pudukkottai on International youth Day celebration on August 12th, 2024
- ◆ Lecture on “Chemical Reaction Equilibria” at Department of Biotechnology, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai on May 3rd, 2024.

ORGANIZED/SEMINARS/WORKSHOPS ORGANIZED

- ◆ DST SERB sponsored Two days workshop on “Recalcitrant Pollutants Degradation and its Toxicity assessment” under SSR scheme at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from January 08 – January 09, 2025
- ◆ Two days National Level Technical Symposium on “Conclave for Sustainable Biotechnology” at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from September 22- September 23, 2022
- ◆ TEQIP II sponsored Hands-on training programme “Molecular and analytical techniques in

Biotechnology” at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from February 27 – March 3, 2017.

- ♦ TEQIP II sponsored National Level Symposium on BIORITZ'16 at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from February 22 - 23, 2016.
- ♦ TEQIP II sponsored National Level Symposium on BIORITZ'14 at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from October 30 - 31, 2014. Nov 5 and 6
- ♦ TEQIP II sponsored Two days Seminar on “Biotechnology – The Wave of Future” at Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from October 30 - 31, 2013.

LIST OF NPTEL SWAYAM COURSES ATTENDED:

- **SWAYAM-NPTEL domain certification in Bioprocesses**

S. No	Name of the course	Duration	Grade
1.	Principles of Downstream Processing	29 Jul – 18 Oct 2019 - 12 weeks	Elite
2.	Cell Culture Technologies	24 Feb-17 April 2020 - 8 weeks	Elite with Silver
3.	Nanotechnology in Agriculture	14 Sep- 6 Nov, 2020 - 8 weeks	Elite with Silver
4.	Wildlife Ecology	14 Sep- 4 Dec, 2020 - 12 weeks Exam : Dec 20	Elite with Gold
5.	Environmental Biotechnology	26 July-15 Oct, 2021 - 12 weeks Exam :oct 24	Elite with Silver (Topper 2%)
6.	Aspects of Biochemical Engineering	24 Jan- 15 April 2022 - 12 weeks Exam April 23 FN	Elite with Silver (Topper)
7.	Forests and their management	24 Jan- 15 April 2022 - 12 weeks Exam April 23 AN	Elite with Gold
8.	Transport phenomena in Biological systems	July – Oct 2023	Elite with Silver (Topper)
9.	Principles of Downstream Processing	July – Oct 2023	Elite

8 weeks - 54 days, 12 weeks – 82 days

LIST OF SEMINAR / SHORT TERM COURSE /FDP/ WORKSHOP ATTENDED (WITHIN INDIA)

1. Two-week Online Faculty Development Programme on “Sustainable Food Product Development” jointly organized by Tamil Nadu Skill Development Corporation Naam Mudhalvan programme, Government of Tamil Nadu held from February 10 - 16, 2025.
2. AICTE Training and Learning (ATAL) Academy Faculty Development Program on “Revolutionizing Healthcare and Biotechnology: The role of AI and Computational Techniques” organized by Sethu Institute of Technology from February 03 - 08, 2025
3. 8 modules courses conducted by National Initiative for Technical Teachers Training in the month of February 2024.
4. Two weeks Online Industrial training programme on “Industrial training programme on Product development using polymeric materials in engineering and biomedical application” organized by Central Institute of Petrochemicals Engineering and Technology (CIPET), Chennai held from 20-12-2023 to 04-01-2024.
5. Two weeks Online Industrial training programme on “Plastics processing and testing” organized by Central Institute of Petrochemicals Engineering and Technology (CIPET), Madurai held from 10-06-2021 to 22-06-2021.
6. Two week Online Faculty Development Programme on “ICT Tools for Teaching Learning Process and Institute” jointly organized by Electronics and ICT Academies supported by Ministry of Electronics and Information Technology (MeitY), Government of India held from August 10 -21, 2020.
7. AICTE sponsored Short term course “Recent Advances in Stem cells and Tissue Engineering” organized by Department of Biotechnology, IITM, August 24th – 28th, 2020
8. One week Online - International Faculty Development Programme on “Recent Advances in Next Generation Sequencing” jointly organized by Ministry of Earth Sciences – Earth Science Technology Cell and Centre for Ocean Research, Sathyabama Institute of Science and Technology, Chennai held from July 27 – August 2, 2020.
9. Webinar on “Chiral chromatography” conducted by Interdisciplinary Institute of Indian System of Medicine (IIISM), SRM Institute of Science and Technology, Kattankulathur, Chennai on July 15, 2020.
10. Webinar on “Funding Opportunities in Biotechnology” conducted by PG and Research Department of Biotechnology and Bioinformatics, Holy Cross College, Tiruchirappalli on June 27, 2020.
11. Webinar on “Introduction to 3D Bioprinting and the role of Biotechnologists” conducted by Department of Biotechnology, Karpagam Academy of Higher Education, Coimbatore on June 26, 2020.
12. International Online Five Days Faculty Development Programme on “ICT Tools for Effective Teaching” organized by Department of Visual Communication, Sathyabama Institute of Science and Technology, Chennai held from June 22 – 26, 2020.
13. International conference on “Bioprocessing India 2017” during December 9 – 11, 2017, at IIT Guwahati, Assam.
14. Faculty Development Programme (FDP) on “Learning Improvement Techniques” organized by IIT Madras, Teaching Learning Centre from January 28 - 30, 2016.
15. TEQIP II sponsored Faculty Development Programme (FDP) on “Principles of Bioreactor Engineering” organized by Department of Biotechnology, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli from December 16 - 22, 2013.
16. Eighth National Conference on “Optimization Techniques in Engineering Sciences and Technologies” during April 19 – 20, 2013, at Bannari Amman Institute of Technology, Erode.

17. UGC sponsored 78th Orientation Programme organized by Academic staff college, Bharathidasan University, Tiruchirapalli held on February 1 - 28, 2013.
18. National conference on “Environment Biodiversity and Bioethics – Current trends and future perspective 2012” held on March 23 - 24 at Annamalai University, Chidambaram.
19. International Conference on Biotechnology & Global warming (ICBGW) 2011 held on March 10 - 12, at Vivekanandha College for Women.
20. UGC sponsored seminar on “Bioprocess Modeling Optimization and Simulation–2011” held on February 18-19, 2011 at Annamalai University, Chidambaram.
21. International Workshop on Micronucleus Assays with Buccal cells for Human and Environmental Monitoring held on February 9 - 13, 2011 at Anna University of Technology, Tiruchirappalli - 620024
22. All India Chemical Congress “CHEMCON’10” at Annamalai University, Chidambaram on December 2010.
23. AICTE sponsored Staff Development Programme (SDP) on “Fabrication of sub – 100 nm patterning of Biochip for Next Generation Healthcare” organized by Nanobiotechnology lab, Department of Biotechnology from May 3 - 14, 2010 at Periyar Maniammai University, Thanjavur.
24. National Symposium on “Recent Advances in Biotechnology” on January 23 and 24, 2010 at Anna University Tiruchirappalli.

ADDITIONAL RESPONSIBILITIES AT UNIVERSITY:

2024- Till date	Academic Co-coordinator
2022- Till Date	Cultural Coordinator
2019- 2021	Department NBA co-coordinator
2010-2019	Department instrumental maintenance in-charge
2011-2015	Department coordinator for Manam club
2011-2015	Department coordinator for women cell