



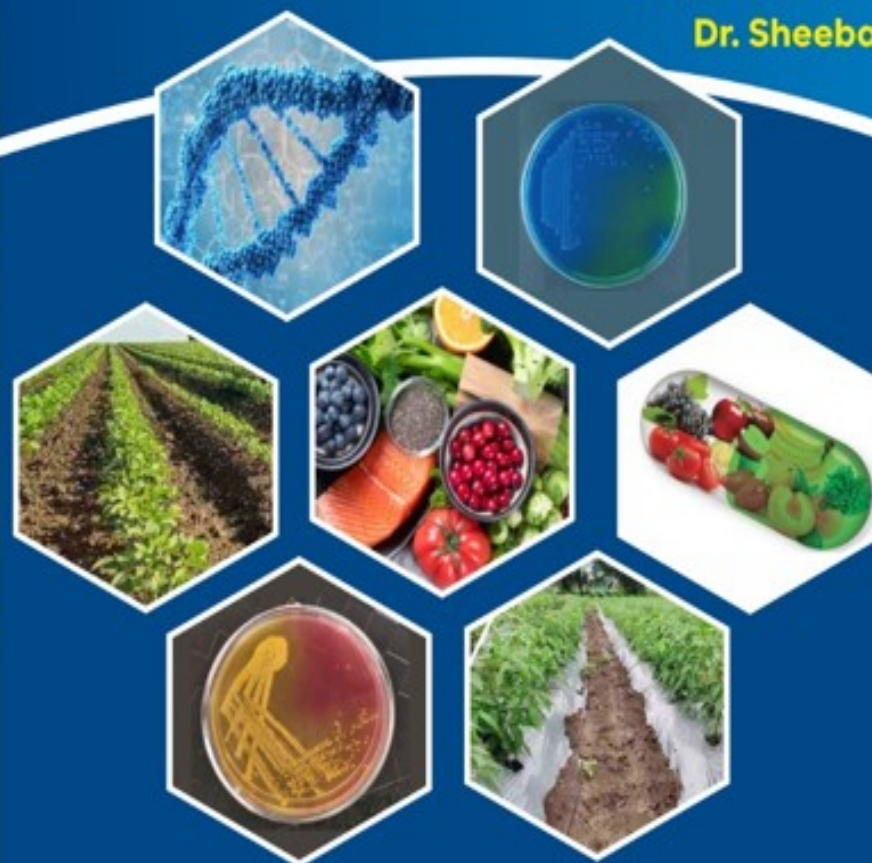
Transdisciplinary Research in Life Sciences for a Sustainable future



TRANSDISCIPLINARY RESEARCH IN LIFE SCIENCES FOR A SUSTAINABLE FUTURE

First Edition

Editors
Dr. B Anirudhan
Dr. Sheeba E



SCHOOL OF LIFE SCIENCES
Nehru Arts and Science College (Autonomous),
Coimbatore, Tamil Nadu, India.

Transdisciplinary Research in Life Sciences for a Sustainable future

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Preface

Life science provides the foundational knowledge and expertise for understanding complex biological systems. Life Science integrate knowledge and methods from various disciplines to address complex problems, often with the goal of creating new knowledge and solutions. The book entitled “Transdisciplinary Research in Life Sciences for a Sustainable Future” provides knowledge on some recent trends and keep us updated of the same. The collaborative nature of transdisciplinary research fosters mutual learning of all the stake holders that leading to a deeper understanding of the problem and the development of more effective solutions. Transdisciplinary research in Life sciences is crucial for a sustainable future because it promotes knowledge co-creation and collaboration across disciplines. In this book, recent collaborative research techniques in different fields are included.

Editors

Dr. B Anirudhan

Dr. Sheeba E

Acknowledgement

First and foremost, we would like to thank **God**. He has given us strength and encouragement throughout to complete this endeavour successfully.

We sincerely thank **the Management, Nehru Group of Institutions** for encouraging us to do the book publication.

We express our sincere thanks to **Darshan Publishers, Tamilnadu, India** who had given an opportunity to Edit this book.

We express heartfelt gratitude to **Dr. T. Sivakumar**, Managing Editor, Darshan Publishers, Tamilnadu, India for his support to publish this book.

We sincerely thank **all the authors from School of Life Sciences, Nehru Arts and Science (Autonomous), Coimbatore** who contributed different chapters to publish as a book entitled “Transdisciplinary Research in Life Sciences for a Sustainable Future”.

Last but not least; we owe special thanks to our **family and friends** for their all-possible way of support and cooperation.



Dr. B. Anirudhan, Principal, Nehru Arts and Science College (Autonomous) has 35 years of experience in Teaching, Research and Administration. 17 years as Principal in Nehru Arts and Science College. He had organized 1700 Conferences, Seminars, Workshops and Webinars, at National and International levels. He published 42 Research Articles in reputed journals and authored 06 Books. He has 04 Patents in his credit. He guided 05 Ph. D. and 07 M. Phil. Scholars. He had organized and Chaired 06 International Conferences in Malaysia, Bangkok, Dubai, Indonesia and Australia. He was part of NAAC PEER TEAM Member and Coordinator of 16 colleges.

Dr. B Anirudhan received following Awards

1. Best Coordinator Award for the Wining Team, VI National Youth Parliament Competition, by Mr. Gulam Nabi Azad, Hon. Minister, Ministry of Parliamentary Affairs, Govt. of India on 17th February 2005 at New Delhi.
2. “Best Principal”- International Institute of Education and Management, Delhi in 2011.
3. “Rajiv Gandhi Education Excellence Award”- International Institute of Education & Management, New Delhi in 2013.
4. “Best Private Arts and Science College in Tamil Nadu”-Worldwide Achievers Association in 2014.
5. “Best Academic Institution 2017” –Dr. Kalam Educational Trust for Tribal- 15th March 2018.
6. “Indy wood Educational Excellence Award” from INDYWOOD in 2018 & 2020.
7. “Shri P K Das Life Time Achievement Award” from Nehru Group of Institutions in 2018.

8. “Rashtriya Vibhushan Samman Puraskar” with Gold Medal -Association for Rising and Talented Personalities, New Delhi in2019.
9. “Torch Bearer Award” - India Didactics Associationin 2019.
10. “Mentor Institution”-Certification from Mahatma Gandhi National Council of Rural Education, Ministry of Human Resource Development, Government of India for the Exemplary Performers in campus water and sanitation management on 06.06.2020
11. “Swacchta Action Plan Institution” - Mahatma Gandhi National Council of Rural Education, Ministry of Human Resource Development, Government of India, September, 2020.
12. “Best Principal Award” 2020 : Nature Science Foundation, Coimbatore
13. “Nodal Centre”, IIT Bombay Spoken Tutorial as Mentor Institution
14. “Most Judicious Award” by National Human Rights Committee, New Delhi, 2020.
15. “Holistic Healer Award” for extraordinary Supporting in Counselling and Healing, by Dr. Sreenath Karaytt’s Academy for Holistic Training, 2020.
16. “Leadership Excellence Award” in coordinating the International Student Exchange Programme, by NAST Training and Consultancy, Malaysia, 2020.
17. National Level Award ‘Best Administration - 2020’ - Dr. Kalam Educational Trust in 2021.
18. Certificate of Recognition for College- “Rural Entrepreneurship Cell”, MGNCRE, Ministry of Education, Govt. of India in 2021
19. Certificate for conducting - “A New Dimensions of Multifaceted Partnership - “India Pride Book of Records” in 2021.
20. “Atal Ranking” - Atal Ranking of Institutions on innovation Achievements - Band Performer (Excellent) –for Environment Management System in December 2021
21. NIRF Ranking – Ranked in NIRF with 101–150 Band among 2000 Colleges in India
22. Best Academic Excellence Award – Nature Science Foundation, Coimbatore – 25th February 2023.

He acted as Resource Person in the following.

1. NIET, talk on “Overcoming weakness in essential Profession Skills”in 2021.

2. “NIRF Orientation Programme” at Nehru Institute of Engineering and Technology, Coimbatore in 2021.
3. “Orientation on NAAC” to Nehru Engineering and Research Centre, Kerala Campus.
4. “Mock Visit for NAAC” at Sri Ramakrishna College of Arts and Science for Women, Coimbatore in 2021.
5. “Energy Audit” at CIET & KOVAI KALAIMAGAL COLLEGE, COIMBATORE - 2021.
6. Key note Speaker on “Ramayana Beyond the Script” at PCM SD College, Jalandhar- 2021.
7. National Panelist - Shanti Devi Arya Mahila College, Dinanagar, Punjab, Two Day International Webinar on “Fundamentalism and Threat to Nationalism” on 27.05.2021.
8. Lecture on “Entrepreneurship and Incubation - Part of Education 4.0” at Central Polytechnic College, Thiruvananthapuram on September 2021.
9. NASC, IQAC - FDP - “Future Skills and NEP - ABC” in 2021.
10. Key note Speaker on Sustainable Career at MESMAC International Conference, MES College Mampad, Kerala.
11. Peer Team Member for Mock Visit of NAAC: 04 Colleges
12. Chair, National Conference on Revisiting Quality in Higher Education, Kristu Jayanthi College, Bengaluru on 16th March 2023.

He conducted National Workshops on NAAC Accreditation, OBE (Outcome Based Education), MENTORING, IEDC, HYBRID EDUCATION, NEW EDUCATION POLICY, ABC, GREEN AUDIT, EMOTIONAL INTELLIGENCE, PROFESSIONAL COUNSELING, TRANSACTION ANALYSIS, ENNEAGRAM, CHAKRA CLEANSING AND HEALING, PAST LIFE REGRESSION, etc.

He is the visiting Professor in Lincon University College, Malaysia and Anyang Institute of Technology, Henan Sheng, China. He acted as a panelist in international level in Indus World, Hyderabad in 2018, EDUTALK by AIMRI in association with EFFISM of Aries Group of Companies, DUBAI on “IS HYBRID EDUCATION THE FUTURE” on 09.09.2020, IDA H.Ed Round Table Discussion On Equity & Excellence In Education: HE 4.0 - Global

Conference ‘The International Education & Skills Summit’ (TIESS), organised concurrent to the DIDAC INDIA 2023 – India’s Only & Asia’s largest event for Education Resources & Solutions and two days International Webinar “Fundamentalism & a Threat To Nationalism”, Shanti Devi Arya Mahila College, Dinanagar, Punjab on 27.05.2021.

LEAD AUDITOR in EMS

He audited 07 Institutions under “Environment Management System”, for Green Campus Audit, Energy Audit, Environment Audit and Hygiene Audit".

COUNTRY VISITED AS RESOURCE PERSON

Australia, Malaysia, Thailand, Indonesia, China, Dubai

COVID -19 Initiatives

- Automatic Hand Sanitizing Dispenser with Thermal Scanner (Patented)
- Preparation of Mask and Face Shield (CDF Department)
- Preparation of Sanitizer (Biotechnology Department)



Dr. Sheeba E is working as Assistant Professor (SG), Department of Microbiology, Nehru Arts and Science College (Autonomous), Coimbatore. Previously she was appointed as Associate Professor at Indian Academy Degree College – Autonomous, Bengaluru, Assistant Professor at Brindavan College, Bengaluru, Lecturer at J J College of Arts and Science, Tamil Nadu and Guest Lecturer at St. Mary's College, Kerala. She has completed her Ph.D in Microbiology from Bharathidasan University, Trichy. She received Women Achievers Award for Academician's Category held in 2021 organized by Palakkad Forum, Bengaluru and second prize in poster presentation in UGC sponsored and co-sponsored KSTA National Conference "New Approaches and Concepts in Microbial Biotechnology" held on 29 – 30 September 2015 organized by Department of Microbiology, Maharani's Science College for Women, Bengaluru. She has published 8 book chapters and 14 research articles and 23 abstracts in conference proceedings contributed as author/co-author. She was one of the editors of the book entitled "Bio entrepreneurship in Biosciences – Recent Approaches" by Darshan Publishers, First Edition, ISBN: 978-93-93942-38-8. She was the editor of Trends and technology development in Life Science, Thanuj International Publishers, Tamil Nadu, First Edition, ISBN: 978-93-94638-30-3. She has organized 1 National and 1 International level conference, 2 Faculty Development Programs, 2 workshops, 6 webinars and 1 quiz as organizing secretary/committee member. She acted as a resource person in National conferences, webinar and Faculty Development Programme. She acted as a resource person in Staff and Students exchange programme in Nehru Arts and Science College Autonomous and B K Shroff College of Arts and M H Shroff College of Commerce on 1st March 2025 on the topic "Innovation in Green Skill Development". She is a life member in Indian Women Scientists Association and International Society for Infectious Diseases.

CONTENTS

Chapter Number	Title	Page Number
1	Role of Microbes in Environment Sustainability Sheeba E	1-7
2	Understanding Diabetes: Types and Management Strategies Dinesh M.D, Thulasi Sivaraman, Dhanusha J Nair	8-16
3	ACC deaminase producing bacteria in sustainable agriculture to mitigate abiotic stress Esath Natheer. S, R. Kasimani and B. David Jayaseelan	17-22
4	Comparative Study on the Bacterial and Fungal Contaminations in Banana Varieties and Its Control M Thangavel	23-36
5	Synthetic Food Dyes and Its Health Impact A Swarnalatha and Diya Sajid	37-47
6	Bioenzymatic Healthcare Products and Bioplastics: Sustainable Approach for a Healthier Future S V Mirudhula, Rizhwanul Hasana H and N Saranya	48-54
7	Marine Biodiversity and Sustainable Fisheries Management Manikandan B and Dinesh Kumar S	55-68
8	Virus Diseases and Their Impact on Sustainable Development Goals (SDGs) Thirunavukkarasu Periyasamy	69-77
9	Sand filtration an environmentally friendly method for treating wastewater in newly constructed homes R. Kasimani, Esath Natheer S and B David Jayaseelan	78-83
10	Isoptera Enzyme an Investigation as New Drug B. David Jayaseelan, R Kasimani and Esath Natheer S	84-90
11	Probiotics: Role in promoting human health Thulasi Sivaraman, Dinesh M.D	91-98
12	Emerging Infectious Diseases and Ecosystem Health Thilagavathi G and Sindhu P	99-106
13	Regenerative Biosciences: Merging Medicine, Agriculture and Ecology Swathi A	107-111
14	Nanoparticle and its applications – A Review Jesseena. K. S and Shanmugam V	112-135
15	Obesity and Its Management through Nutraceuticals O.S. Nimmi	136-141
16	The Interplay Between Diabetes, Blood Pressure, and Diet: A Nutritional Approach to Management Jaysree R C	142-150

17	The Human Genome and Sustainable Health: Precision Medicine Meets Public Policy Sruthi C K	151-155
18	Revolutionizing Microplastic Degradation: A Genetic Approach to Nitrification and Nitrogen Cycling in the Soil and Marine Environment -A Review Dhanusha J Nair, M D Dinesh	156-164
19	Microbiomes and Sustainable Development: From Soil to Gut Joshni Maria Joy	165-171
20	Transdisciplinary Research in Life Sciences for a Sustainable Future V Sharmila	172-180
21	The Influence of Social Media on Changing the Concept of Healthy Food Jayalakshmi J Menon	181-186
22	Beyond the Microscope: The IMViC Test as a Cornerstone in Differentiating Enteric Bacteria K Narayanasamy	187-197
23	Unlocking the Agricultural Potential of Endophytic Fungi for Sustainable Growth Udayan Elangovan	198-207
24	Functional Foods for Sustainable Health and Nutrition Sharmila K	208-217