**FACULTY PROFILE**

*Department of Humanities and Biological Sciences | School of Engineering | Dayananda Sagar University*

**Dr. Seema Tharannum [Professor]**
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School of Engineering
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## 1. ABOUT / PROFESSIONAL PROFILE

Dr. Seema Tharannum is a Professor of Biological Sciences at the School of Engineering, Dayananda Sagar University, Bengaluru, with over 32 years of experience in teaching, research, academic administration, and student mentorship in the fields of biotechnology and environmental sciences.

She holds a Ph.D. in Biotechnology, specializing in Environmental Biotechnology, from Kuvempu University, Shivamogga, awarded in 2013 under the guidance of Dr. V. Krishnamurthy. She earned her M.Phil. in Biotechnology from Bharathidasan University in 2005 and her M.Sc. in Biotechnology from the University of Mysore in 1995, both with First Class with Distinction.

Throughout her distinguished academic career, Dr. Tharannum has been actively involved in teaching undergraduate, postgraduate, and research programs, while mentoring students and contributing significantly to academic administration. Prior to joining Dayananda Sagar University, she served at PES University and PES Institute of Technology in various capacities, including Associate Professor, Assistant Professor, and Lecturer. She has also held teaching positions at BMS College, Bengaluru, and S.N. Institute of Dental Sciences, Hassan.

Her research interests encompass Environmental Biotechnology, Bioremediation of Heavy Metals, Microbial Biotechnology and Applications, Nanobiotechnology, and the Integration of Artificial Intelligence in Biological Sciences. She has successfully completed several funded research projects supported by organizations such as UGC, C-DAC, PES Institute, and PES University. One of her notable projects supported by C-DAC resulted in the development of an innovative product that progressed to the trademark registration and commercialization stage under the trade name PP Solution (PES Pebrine Solution).

Dr. Tharannum has guided several Ph.D. scholars and postgraduate research students and has published numerous research articles in national and international journals. Her academic

contributions also include book chapters and presentations at prestigious national and international conferences held in India, Malaysia, Dubai, Thailand, Qatar, and Singapore.

In addition to her teaching and research responsibilities, she has contributed extensively to institutional development and academic administration. Her previous responsibilities include serving as Assistant Dean – Examinations, Coordinator of the Indian Red Cross Wing, and an IQAC Internal Audit Member. She has also actively organized and participated in several community development and outreach programs.

Dr. Tharannum is actively associated with various professional and scientific organizations and has served as a member of Boards of Studies at multiple institutions. She has chaired and moderated several technical sessions at national and international conferences and has been invited to deliver guest lectures and expert talks at various academic and professional forums.

A NPTEL-certified Soft Skills Trainer, Dr. Seema Tharannum's academic leadership, research contributions, student mentorship, interdisciplinary initiatives, and commitment to innovation reflect her dedication to advancing education and research in biotechnology, environmental sciences, and allied emerging fields.

## 2. RESEARCH INTERESTS

- Molecular Biology
- Genetic Engineering
- Microbial Biotechnology
- Environmental Biotechnology, and
- Sustainable Bioprocess Development.

## 3. ACADEMIC QUALIFICATIONS

**PhD - Biotechnology - 2013**
Specialization- Environmental
Biotechnology Kuvempu University,
Shimoga

**MPhil - Biotechnology-2005**
First Class with Distinction, Bharatidasan University

**MSc - Biotechnology -1995**
First Class with Distinction Mysore University

## 4. PROFESSIONAL EXPERIENCE

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|---|---|---|
| **I year HOD/Coordinator-Chemistry cycle**<br><br>August 2025 till date | Department of Biological sciences, School of engineering, Dayanandasagar University, Bangaluru | Overall In charge for smooth conduction of academics of I BTech 2025 batch |
| **Professor**<br>Sept 2022 till date | Department of Biological sciences, School of Engineering, Dayanandasagar University, Bangaluru | Teaching UG, PG and Research programs, administration |
| **Associate Professor**<br>Apr. 2015- Sept 2022 | Department of Biotechnology, PES University, Bengaluru | Teaching the UG & PG, BTech, MTech Programs, Research and Administration |
| **Assistant Professor**<br>May 2011 - April 2015 | Department of Biotechnology, PESIT, Bengaluru | Teaching the UG & PG, BTech, MTech Programs, Research |
| **Lecturer**<br>Sept. 2003 - May 2011 | Department of Biotechnology, PESIT, Bengaluru | Teaching the PG students MSc-BT Program |
| **Lecturer**<br>1999 - 2003 | Department of Biotechnology, BMS College, Bengaluru | Teaching the UG students |
| **Lecturer**<br>1995 - 1999 | SN Institute of Dental Sciences, Hassan Department of Microbiology and Immunology | Teaching UG students |

## 5. RESEARCH HIGHLIGHTS

### Journal Publications

**International Journals:**

1. **Seema Tharannum**, Sarah Sunitha, Nithya, J., Chandini, M., Vanitha, J., Manjula, T.S., Shyam Sundar, C, **"Molecular confirmation of the presence of coliforms in drinking water using polymerase chain reaction".** *Kathmandu University Journal of Science, Engineering and Technology, Vol***. 5, no. II, September, 2009, pp 130-136.**

2. **Seema Tharannum**, Krishnamurthy V., Riaz Mahmood. 2012, Characterization of Chromium remediating Bacterium *Bacillus subtilis* isolated from Electroplating effluent. *International Journal of Engineering Research and Applications* , 2 (4) ; 961-966.

3. **Seema Tharannum**, Krishnamurthy V., Riaz Mahmood. 2012, Analysis of electroplating Industrial effluent with reference to chromium composition. *International Journal of Current Research and Review*. 04 (15); 66-71.

4. S. Ali, **S. Tharannum**, V. Krishnamurthy, 2013, " Study of Chromium Tolerance,

Remediation and Accumulation by an Indigenous Bacterium Isolated From Electroplating Industrial Effluent," *International Journal Of Pure And Applied Research In Engineering And Technology*, 1(8): 133-140.

5. **Seema Tharannum**, V. Krishna Murthy, Nandini.V, Shruthi.P.T., 2015. Toxic heavy metal chromium remediation by processed low cost adsorbent-Green coconut shell. *The online journal of Science and Technology*, 5(1), 49-54.

6. Nandini.V, Shruthi.P.T, **Seema Tharannum**, V. Krishna Murthy., 2015. Study of eggshell membrane as a potent adsorbent of chromium. *International Journal of Research*, 2(2), 1262-1269. ( Impact factor-3.4).

7. Ankitha R, Prakruthi S, Sneha, **Seema Tharannum**., 2016. Areca nut as a Potential Bioadsorbent for Remediation of Chromium. *International Journal of Science Engineering and Management (IJSEM)*, (1) 1, 7-14.

8. Divya R, Raksha Suresh, Srushti Tamhaney, **Seema Tharannum**., 2016.Extraction and characterization of gelatine from chicken waste for application in food and Pharma industry.I*nt. J. Fund. Appl. Sci.* Vol. 5, No. 2 , 44-48.

9. R.Mythri, V.Krishnamurthy, and **Seema Tharannum**,2017. Bacterial Response to Cromate Exposure - A Review, *International Journal of Recent Research and Review*, Vol. X, Issue 1, 38-46.

10. Mythri Ramachandra, Shivani Hiremath, Sanju Maria, Shwetha Chengappa, **Seema Tharannum**, V. Krishnamurthy, 2018. "Strain Improvement of selected bacteria using physical mutagen for bioremediation of hexavalent chromium :A comparative study" *International Journal of Advances in Science Engineering and Technology*, Vol-6, Iss-2, Spl. Issue-2, pp 1-4

11. Nidhi Nain , R. Surabhi, Yathish N.V., V. Krishnamurthy , T. Deepa , **Seema Tharannum**, 2019. Enhancement in strength parameters of concrete by application of Bacillus bacteria, *Construction and Building Materials* 202 , 904–908

12. Suman Kashyap, **Seema Tharannum**, Taarini R, 2019. Influence of formulated organic plant tissue culture medium in the shoot regeneration study of *Brassica juncea* (l.)- Indian mustard. *J Plant Biotechnol* 2019; 46;114-118

13. Mythri R, **Seema Tharannum** & Krishnamurthy, 2020, Bioremediation of hexavalent chromium from electroplating effluents by wild and mutant strains of *Bacillus amyloliquifaciens*, Indian Journal of Experimental Biology Vol. 58, October 2020, pp. 722-729.
http://nopr.niscair.res.in/bitstream/123456789/55406/1/IJEB%2058%2810%29%20722-729.pdf

**14.** Divya Joseph Pereira and **Seema Tharannum**, 2021, Pharmacological Potential of Volatile Oil and Extract of Anethum sowa L.: A Review, Res. Jr. of Agril. Sci. 12(2): 681–685. http://rjas.org/Article/Article/3648

**15.** Divya Joseph Pereira, B.S. Mahanash Kumar, Prashantha Karunakar and **Seema Tharannum**, 2021, Anticancer, Anticollagenase and in Silico Docking studies of *Anethum sowa* L.Herb Oil against HCT 116 Human Colorectal Cancer Cell Line, Journal of Pharmaceutical Research International. 33 (30A): 1-13. https://www.journaljpri.com/index.php/JPRI/article/view/31608

**16.** Kashyap S, Shreyaa S, Suresh A, **Tharannum S**. Micropropagation of *Solanum lycopersicum L.* using chemical free formulated organic plant growth media. Plant Science Today. 2022;9(1):132–136. https://doi.org/10.14719/ pst.1348 (Q3)

**National Journal:**

**1.** **Seema Tharannum**, Sunitha K, Madhura Ankola and Divya C K, " Plantibodies – Pharmaceutical product of Green factories", Vatika, Issue 3, Autumn session Sept 2011, pp 18-20

1. **Dr. Seema Tharannum,** Professor and Ms. Hiba Syed (2nd Year CSE) from SOE, DSU presented a paper orally titled **' AI-driven drug discovery integrating molecular docking and database mining: with a case study on cancer** ' at Scopus indexed 'International conference on Healthcare Informatics' (ICHI) held in Austin, TEXAS, USA on 9th December 2025 organized by Global Conferences.

2. Ms. Kavya Pai, **Dr. Seema Tharannum**, and Dr. Srinivas Koduri from Dayananda Sagar University, Bengaluru, presented their review titled *"Inhibitor of Apoptosis Proteins (IAPs) – The Regulators of Cell Signalling"* at the Second International Conference on Artificial Intelligence, Computation, Communication and Network Security (AICCoNS 2026), held from 28–30 April 2026 at the University of Wollongong in Dubai. The presentation focused on the critical role of IAPs in regulating apoptosis and cell signalling pathways, highlighting their molecular mechanisms, interactions, and relevance in disease progression, particularly in cancer biology. The review emphasized the potential of targeting IAPs for therapeutic interventions and underscored recent advancements in integrating computational and AI-based approaches to study complex signalling networks.This is the preliminary work of research scholar Ms. Kavya Pai.

3. **Dr. Seema Tharannum**, Dr. Wagdevi P, Mr. Samson Nicholas, and Mr. Izaaz F from the Department of Biological Science, School of Engineering, Dayananda Sagar University (Harohalli Campus), delivered an oral presentation titled "Artificial Intelligence in Environment-Microbe Systems" at the Second International Conference on Artificial Intelligence, Computation, Communication and Network Security (AICCoNS 2026), held from 28–30 April 2026 at the University of Wollongong in Dubai. . The presentation

highlighted the application of AI techniques in understanding and predicting complex microbe–environment interactions, emphasizing advancements in data-driven modeling and sustainable environmental solutions.

4. Hema.S, Anushri Vatedka , Priya.S, Jayashree K, Ms.Archana Preetha R, Dr. Kirankummar B, Dr. Usha T, **Dr. Seema Tharannum** and Dr. Sushil Kumar Middha presented a paper at ICFMST – 2026 on 18th February 2026 at Nrupathunga University, Bengaluru, Karnataka, India in association with Karnataka State Higher Education Council with paper ID -LSB004 on title - In silico evaluation of angiotensin-I converting enzyme inhibitory Bioactive peptides from Pomegranate bio waste.

**Book Chapter:**

1. Kashyap, S., Tharannum, S., Krishna Murthy, V., Kale, R.D. (2023). Management of Biomass Residues Using Vermicomposting Approach. In: Pandey, V.C. (eds) Bio-Inspired Land Remediation. Environmental Contamination Remediation and Management. Springer, Cham. https://doi.org/10.1007/978-3-031-04931-6_11

2. Saini, S., **Tharannum, S.**, & Sardar, T. H. (2025). AI in medical imaging: Revolutionizing diagnostics through AI-powered services and case studies. In S. Bandyopadhyay, T. H. Sardar, A. Mallik, A. AminHazarika, & A. Gourisaria (Eds.), *AI and data engineering for healthcare: Real-world applications and case studies*. CRC Press/Routledge, Edition 1, Chapter 6, pages 13

***Research:***

***Funded Projects:***

- Successfully completed two extra-mural grant funded research projects
  - UGC minor research project of amount Rs.1,50,000/- with ref no. MRP(S)-705/10-11/KABA037/UGC_SWRO. ( 2011-2013)
  - CDAC project of Rs. 6,00,000/- as co Investigator for topic Detection of Pebrine spores. (2014), project concluded with Trade mark registered. (Application No.3296219 "PP Solutions"-Advertised- Ref.: SB/AS/sn/TM20141/ITM No. 3168844)
  - PESU Internal funded project of Rs. 5,20,000/- as Principal investigator for establishment of Bioethanol production plant. (2021-2023)
- Guide for FIVE scholars at PES University, two candidates successfully completed PhD and one completed post doctoral fellow.
- Guided UG and PG student group projects
- M. Sc and M. Tech by research guide at PES University.

**Awards and Honors**

1. Was awarded Fourth prize in a poster competition held for research scholars and post graduate students organized by Society of Biochemists (India) ( Mysore Chapter) on December 14,

1993 held at CFTRI Campus, Mysore.

2. Was awarded second prize in a poster competition held by Association of Microbiologists of India (Mysore Chapter) on March 31, 1994 held at CFTRI campus, Mysore.
3. Won best poster presentation award at Bangalore India Bio -2016
4. Won best paper award at International conference on emerging trends in engineering and technology, Bengaluru on April 17, 2016.
5. Won Excellent paper award for paper entitled ' Strain improvement of selected bacteria using physical mutagen for bioremediation of hexavalent chromium: A comparative study" at International conference on environmental, Agriculture and Biotechnology (ICEABT), organized by ARSSS, Bangalore held on April 15, 2018.

- Invited subject expert for interviewing candidates for faculty recruitment at NMKRV college
- Coordinator and Resource for 5th OJT Program ( March 2025)
- Dr. Seema Tharannum, Professor of Biological sciences attended the BOS meeting of Siddaganga Institute of Technology to refine the syllabus on 9th May 2025.
- Invited Judge at Tradition 2.0, Innovating the future with heritage organised by Department of Computer Science and Technology , DSU on 7th March 2025
- Invited Judge at Cascade 2024
- Invited Judge at Taranga 2025
- Invited Judge at Ethnic day 2025
- Organized and resource for a soft skill training program for supervisors of Buhler India Pvt. Ltd. - June 2025
- Attended FDP-IITDM on AI in medical Imaging for 15 days organised by IIT (7th July to 18th July )
- Organised Inaugural function for 6th OJT for Strides Pharma Science employees ( 38 Nos)
- Jury member for ELEVATE 2025 organised by Department of IT, BT and EC, Government of Karnataka on 17th November 2025.
- Organised and resource for a soft skill training program for supervisors of Buhler India Pvt. Ltd.- November 2025
- Organising committee of Net zero conclave held on 29th December 2025

## 7. SELECTED PUBLICATIONS (Recent)


1. Pereira Divya Joseph, Krishnamurthy V, Karunakar Prashantha, **Tharannum Seema**, 2022. Medicinal significance of drug-like compounds derived from Anethum sowa L. seed oil and in-silico predictive investigation of cancer therapy potential. J. Med. P'ceutical Allied Sci. V 11 - I 1, Pages - 4218- 4223. doi: 10.22270/jmpas.V11I1.2193

2. Sheshadri S. Temkar, Tarun M, **Seema Tharannum**, Dinesh M. S , 2024. Synthesis and Characterization of Iron oxide Nanoparticles with Thymoquinone. International Journal of Nano and Biomaterials. Vol 10 (3) , pp 141-159. DOI: 10.1504/IJNBM.2023.10058901

3. Prabha, K. D., **Tharannum, S**., & Shanti, K. N. (2025). In vitro evaluation of anti-cancer effects of iron nanoparticles synthesised via Musa Acuminata extract: a green chemistry approach. *International Journal of Nano and Biomaterials*, *11*(1), 40-58. https://doi.org/10.1504/IJNBM.2025.146476

4. Tanya Gopal,Vaishnavi Sugumar,Wagdevi P, Divya Joseph Pereira, **Seema Tharannum,** "A Systematic Review on Mycotoxins in Food and Environment: Occurrence, distribution, Impact on human health and Prevention" (2025) *International Journal of Environmental Sciences*, pp. 2134–2140. doi:10.64252/bw6b8h02.

## 8. ACADEMIC PROFILES

- **Scopus ID:** 35759821100
- **ORCID ID:** 0000-0003-1931-1856
- **Google scholar:** https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=seema+tharannum&btnG=

## 9. CONTACT

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