



K.S.RANGASAMY COLLEGE OF TECHNOLOGY
(Autonomous)
TIRUCHENGODE-637 215
DEPARTMENT OF BIOTECHNOLOGY
FACULTY PROFILE



GENERAL INFORMATION

Name of Faculty : Dr.S.Poornima

Date of Joining	16.05.2011	
Department	Biotechnology	
Designation	Assistant Professor	
Home Address	146, Nehruji Nagar, Vedasandur, Dindigul Dt.	
City: Dindigul	State: Tamil Nadu	Code: 624 710
Mobile	9994625815	
Email	spoornima@ksrct.ac.in	

EDUCATIONAL CREDENTIALS (STARTING WITH PG DEGREE)*

Degree	University	Discipline/Specialization
Ph.D	Anna University, Chennai	Chemical Engineering
M.Tech.,	Anna University of Technology, Coimbatore	Chemical Engineering
B.Tech.,	Bharathiar University, Coimbatore	Chemical Engineering

EXPERIENCE

a). ACADEMIC EXPERIENCE (STARTING FROM CURRENT)*

Organisation Name & Address	Designation	Job Description	From	To
K.S.Rangasamy College of Technology	Assistant Professor	Teaching	16.05.2011	Till Date
P.S.R. Engineering College, Sivakasi	Lecturer	Teaching	01.08.2005	31.08.2009

Memberships in Professionals Societies

S. No	Name of the Professional/Learned bodies/Societies
1.	Indian Society for Technical Education, New Delhi, India (Life member)
2.	IEEE Engineering in Medicine and Biology Society, USA. (2015 onwards)
3.	Indian Lichenological Society, Lucknow, India. (Life member)

Awards

- Received '**Best faculty award**' from Nature Science Foundation, Coimbatore (2020).
- As a Coordinator Received '**Best New Branch Chapter Award**' for IEEE-EMBS Student Branch Chapter (SBC 60891A) from EMBS Headquarters, New Jersey, USA (2017).

Sponsored projects

AICTE - MODROBS “Large scale production of antibiotics through modernization of bioreactors and accessories in the Bioprocess Engineering and Technology Laboratory” (Co-investigator). (2017-18)

Patent filed

Title: Standardization of culturing techniques for the isolation of mycobiont from *Parmotrema reticulatum*

Ref. No.: E-2/2176/2019-CHE

Funds received to organize Conference / Seminar / Workshop

Name of sponsoring agency	Title of programme	Total amount	Academic Year
AICTE, New Delhi	Scheme for Promoting Interest, Creativity and Ethics among Students	Rs.1,00,000/-	2020-21
SERB, New Delhi	National Workshop on “Recent Trends and Future Perspectives of Animal Cell culture Techniques” Sponsored by SERB, New Delhi. (Co-coordinator)	Rs.1,00,000/-	2017-18
IEEE – EMBS, New Jersey, USA	Conference cum Scientific Meet on Industry Institute Interaction (Co-coordinator)	Rs.66,000/-	2016-17
IEEE – EMBS, New Jersey, USA	IEEE-EMBS Members Meet-2015 Programme (Co-coordinator)	Rs.66,200/-	2015-16
DBT, New Delhi	Popular Lecture Series Programme in Biotechnology	Rs.1,26,840/-	2014-15

SWAYAM NPTEL ONLINE COURSES COMPLETED

- Principles of Downstream processing in Bioprocess offered by IIT Madras (4 weeks)
- Biology for Engineers and other non-biologist offered by IIT Madras (4 weeks)

List of Nucleotide sequences deposited at NCBI, Mary land, USA.

Name of the isolate	Accession number
<i>Preussia minima</i>	MF927533
<i>Cladosporium oxysporum</i>	MF927534
<i>Chaetomium bostrychodes</i>	MF927535
<i>Penicillium</i>	MF927536
<i>Alternaria sp.</i>	MF927537
<i>Xylaria apiculata</i>	MF927538
<i>Alternaria alternata</i>	MF927539
<i>Cladosporium cladosporoides</i>	MF927540
<i>Aspergillus flavus</i>	MF767671
<i>Alternaria termuissima</i>	MF927541
<i>Parmotrema austrosinense</i>	MG015955
<i>Trichoderma harzianum</i>	MT509807
<i>Aspergillus flavus</i>	MT509808
<i>Curvularia lunata</i>	MT509860

List of papers published in National and International Journals

1. Govindan Rajivgandhi, Balasubramanian Mythili Gnanamangai, Thirumoorthy Heela Prabha, Shanmugam Poornima, Muthuchamy Maruthupandy, Naiyf S Alharbi, Shine Kadaikunnan, Wen-Jun Li. (2022). "Biosynthesized zinc oxide nanoparticles (ZnO NPs) using actinomycetes enhance the anti-bacterial efficacy against *K. Pneumoniae*". Journal of King Saud University-Science, 34 (1) 101731. (IF: 4.011)
2. Poornima S, Rajivgandhi G, Maruthupandy M, Mothana RA, Noman OM, Nasr FA, Ponmurugan P, Moorthy IG, Sivarajasekar N. (2022). "Statistical modeling and optimization for the production of secondary metabolites by lichen mycobiont isolated from *Parmotrema austrosinense*". Physiological and Molecular Plant Pathology, 117, 101760. (IF: 2.747)
3. Vivekanandhan Karthik, **Shanmugam Poornima**, Arumugam Vigneshwaran, Daniel Paul Raj Dharun Daniel Raj, Ramasamy Subbaiya, Sivasubramanian Manikandan, Muthupandian Saravanan. (2021). "Nanoarchitectonics is an Emerging Drug/Gene Delivery and Targeting Strategy -A critical review". Journal of Molecular Structure. 2021; 1243. doi.org/10.1016/j.molstruc.2021.130844. (IF:3.196)
4. Karthik Vivekanandhan, **Poornima Shanmugam**, Hamed Barabadi, Vigneshwaran Arumugam, Dharun Daniel Raj, Manikandan Sivasubramanian, Subbaiya Ramasamy, Anand Krishnan, Boomi Pandi, Balakumar Chandrasekaran, Selvaraj Arokiyaraj and Muthupandian Saravanan." Emerging Therapeutic Approaches to Combat COVID-19: Present status and future perspectives". *Frontiers in Molecular Biosciences*. (2021). doi: 10.3389/fmolb.2021.604447 (IF:5.246)

5. Rajendran K, **Poornima S**, Ponnusamy P. ‘Antimicrobial and Antiproliferative Activities of Depside Compound Isolated from the Mycobiont Culture of *Parmotrema austrosinense* (Zahlbr.) Hale’. *J Pure Appl. Microbiol.* 2020;14(4): 2525-2541.doi: 10.22207/JPAM.14.4.29.
6. **Poornima Shanmugam**, Divya Palanisamy, Natchimuthu Karmegam, Ramasamy Subbaiya, “Aqueous two-phase partitioning and characterization of xylanase produced by *Streptomyces geysiriensis* from low cost lignocellulosic substrates”. *Journal of Bioscience and Bioengineering.* 130 (6) 571-576 (2020). (IF:2.894)
7. Navreen Dasthageer, **Poornima Shanmugam**, Mythili Gnanamangai, Nagarjun Nagarajan, Vigneshwaran Arumugam, Karthik Vivekanandhan, Divya Palanisamy, Ponnusamy Ponnurugan, Analysing drying characteristics of *Solanum trilobatum* leaves and nutritive assessment of cookies, *Materials Today Proceeding* (2020).
8. Rajamanickam Mohanrajaj, Balasubramian Mythili Gnanamangai, **Shanmugam Poornima**, Vankathir Oviyaa, Kanthasamy Ramesh, GiriRajan Vijayalakshmi, Muthusamy Nithya, Natesan Karthik, Ponnusamy Ponnurugan, Jayachandran Philip Robinson, Decolourisation efficiency of immobilized silica nanoparticles synthesized by actinomycetes. *Materials Today Poceedings* (2020) (In Press).
9. Rajamanickam Mohanraj, Balasubramanian Mythili Gnanamangai, Kanthasamy Ramesh, Paneerselvam Priya, Ravichandran Srisunmathi, **Shanmugam Poornima**, Ponnusamy Ponnurugan, Jayachandran Philip. Optimized production of gamma poly glutamic acid (γ -PGA) using sago. *Biocatalysis and Agricultural Biotechnology.* Vol. 22, 101413, pp.1-9. 2019. 10.1016/j.bcab.2019.101413.
10. **Poornima Shanmugam**, Nagarjun Nagarajan, Ponnusamy Ponnurugan, Gnanamangai, Mythili, Narasimman Selvaraj. Toxicity and anti-inflammatory study of *Parmotrema austrosinense* extract against oxozalone induced intestinal inflammation in zebra fish (*Danio rerio*) model. *Biocatalysis and Agricultural Biotechnology.* Vol. 21, 101278, pp.1-4. 2019. 10.1016/j.bcab.2019.101278.
11. Sureshraj Soundararajan, **Poornima Shanmugam**, Nagarjun Nagarajan, Divya Palanisamy, and Ponnurugan Ponnusamy. *In vitro* study on screening antimicrobial and anti-oxidant potential of *Ramalina fastigiata*. *Journal of Drug Delivery and Therapeutics.* Vol.9, No.1, pp. 216-219, 2019.
12. P. Divya, M. Priyadarshini, S. Tamilarasu, **S. Poornima**, B. Mythili Gnanamangai, K.S. Ghanapathy Ram, M. Sanjeev Kumar, R.C. Gowtham. Quality Assessment and Shelf Life Evaluation of *Momordica charantia* Based Candies. *American International Journal of Research in Science, Technology, Engineering & Mathematics* pp. 297-301, 2019.
13. **Poornima Shanmugam**, Ponnurugan Ponnusamy, Mythili Gnanamangai Balasubramanian, Gopal Gayathri, Kumarasamy Dheenadhayalan, Ayyappadasan Ganesan. Screening biologically potent endolichenic fungi isolated from lichens habitat on silver oak tree. *Vegetos-An International Journal of Plant research and Biotechnology* (2018). Vol.: 31(3).pp.89-94.

14. **Poornima Shanmugam**, Ponmurugan Ponnusamy, Mythili Gnanamangai Balasubramanian, Nagarjun Nagarajan, Ayyappadasan Ganesan. Evaluation of antimicrobial, antioxidant and anticancer activities of few macrolichens collected from Eastern Ghats of Tamil Nadu, India. *International Research Journal of Pharmacy* (2017). Vol.: 8(3). pp. 39-43.
15. **Shanmugam Poornima**, Ponnusamy Ponmurugan, Syed Zameer Ahmed, Ganesan Ayyappadasan, Fahad Khalid Aldhafiri, Santharaj Balakrishnan. Evaluation of anti-cancer properties of Lichens using *Albino wistar* rats as an animal model. *Cancer Research Journal* (2016). pp. 84-89.
16. Pavitha, P. and **Poornima, S.** Repellent Potential of *Tagetes erecta L.* and *Callistemon brachyandrus Lindl.* Against Mosquito Larvae for Formulation of Herbal Repellent Compounds. *International Journal of Innovative Research in Science, Engineering and Technology* (2014). pp. 12030-12037.

List of Papers presented in Conferences/ Symposia/Seminar

1. S.Poornima, A.Vigneshwaran, National conference on “Biochemical, Renewable energy and sustainable Technology”. Selvam Engineering College, Namakkal. Tamil Nadu. (2019).
2. S.Poornima, A.Vigneshwaran. National conference on “Future Trends in Marine Biotechnology”. Centre for Marine Science and Technology, Kanyakumari. (2019)
3. S.Poornima, 10th NABS National conference on Recent Trends in Life sciences: Research. Practices and Applications for Sustainable developments. Bharathiyar University, Coimbatore. (2018)
4. S.Poornima, K.Monisha “Evaluation of antidiabetic potential of Parmotrema species collected from Eastern Ghats of Tamil Nadu”, 4th International Conference on Innovation in Biotechnology, Civil and Mechanical Sciences, Selvam College of Technology, Namakkal, Tamil Nadu. (2018)
5. S.Poornima, V.Karthik “Mass multiplication of lichen mycobionts under submerged culture conditions for the enhanced production of secondary metabolites”, Student Technical Symposium, K.S.Rangasamy College of Technology, Tiruchengode, Namakkal District, Tamil Nadu. (2018).
6. S.Poornima “Isolation of lichen mycobionts for biomedical applications” 10th NABS National Conference on Recent Trends in Life sciences: Research. Practices and Applications for Sustainable developments”, National Academy of Biological Sciences-Bharathiyar University, Coimbatore, Tamil Nadu, India. (2017).
7. P.Ponmurugan, G.Ayyappadasan, S.Poornima, I.Muthiah “Gamma irradiation protective effect of Lichens” National Conference on Cryptogam Research in India: Progress and Prospects, CSIR-National Botanical Research Institute, Lucknow, UP.(2015)

8. S.Shanmuga Priya, R.Priynaga, S.Poornima, G.Ayyappadasan, P.Ponmurugan “Isolation of secondary metabolites from lichen mycobionts”, National level Technical Conference on Green Biotechnology, Government College of Technology, Coimbatore, Tamil Nadu. (2015)
9. Poornima.S, “Xylanase production by *Streptomyces geysiriensis* using lignocelulosic wastes for paper pulp bleaching”, ICABCMS-2015, Selvam College of Technology, Namakkal, Tamil Nadu. (2015)
10. Poornima.S, “Enzymatic deinking of office waste paper assisted by froth floatation”, National Conference on Challenges and future prospects of applied research in life sciences, Bharathidasan University, Trichy, Tamil Nadu. (2015)
11. Poornima.S, “Quality assessment of Biodiesel produced from spent edible oil using *Bacillus subtilis* lipase enhanced by mixed agro waste”, Advances in green Technology for Pollution free Energy Sources, JCT college of Engineering and Technology, Coimbatore, Tamil Nadu. (2014)
12. Poornima.S, “Production of xylanase by *Streptomyces* species from lignocelulosic wastes under solid state fermentation for enhancing biodiesel production”, Advances in green Technology for Pollution free Energy Sources, JCT college of Engineering and Technology, Coimbatore, Tamil Nadu. (2014)
13. Poornima.S, “Aqueous Two phase extraction of xylanase produced from mixed lignocelulosic wastes by *Streptomyces geysiriensis*”, National Conference on Bioscience, Bioengineering and Environment (NCBBE-2014), Karpagam University, Coimbatore, Tamil Nadu. (2014).
14. Poornima.S “Kinetic and Thermodynamic study on decolourization of Reactive red M5B using *Fusarium oxysporum*”, National level Technical symposium, Vivekanandha College of Engineering for Women, Namakkal, Tamil Nadu. (2014)
15. Poornima.S , “Kinetic and Thermodynamic study on decolourization of Reactive red M5B using *Fusarium oxysporum*”, National Conference on Biotechnology Interventions in Societal Development, Arunai Engineering College, Thiruvannamalai, Tamil Nadu. (2014)
16. Poornima.S, “Production of biodiesel from spent edible oil using lipase extracted from rice bran”, Project Design contest- 14th Futura, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu. (2013)
17. S.Poornima, E. Dinesh Kumar “Kinetic Modeling of Biosorption”, National level Technical Fest on Extract’13, Sri Ram Engineering College, Tiruvallur, Tamil Nadu. (2013)
18. S.Poornima, K.Chandramohan, ‘Prediction of Critical velocity of Solid Suspension in Stirred Bubble Column Reactor using CFD’, International Conference on Biotechnology and Global warming, Vivekanandha Engineering College, Thiruchengode, Tamil Nadu. (2011)
19. S.Poornima, K.Chandramohan, “Studies on Solid Suspension in Stirred Bubble Column Reactor”, National Conference on Current Trends in Chemical and Biochemical Engineering, Sathyabama University, Chennai, Tamil Nadu.(2011)

20. S.Poornima, K.Chandramohan, “ Three phase Stirred Bubble Column Reactor- Prediction of Critical velocity of solid suspension”, National Conference on Recent Trends in Nano Technology, Kamaraj College of Engineering & Technology, Virudhunagar, Tamil Nadu. (2011)

List of Workshop attended

1. Industry Academic Workshop -Progress in Solar Fuels and Plant -Microbe based methods for waste water treatment towards circular economy, PSG College of Technology, Coimbatore. (2020)
2. One day workshop on J Gate -Ara Electronic Gateway for Research, K.S.R College of Engineering, Tiruchengode. (2020)
3. National Level One Day Lecture Workshop on Intellectual Property as a Strategic Asset for Technology Transfer, K.S. Rangasamy College of Technology, Tiruchengode. (2020)
4. Two Days National Level Workshop on “Publishing Articles in SCI Indexed Journals and Filing IPR”, K.S.R Institute for Engineering and Technology, Tiruchengode. (2020)
5. Awareness Programme on ‘Coronavirus’, Nature Science Foundation, Coimbatore, (2020).
6. Webinar on Future of Education, Sky Campus -ICT Academy. (2020)
7. Webinar on Role Chemical Engineering in Industrial Safety, Saveetha Engineering College, Chennai (2020).
8. Webinar on Recent Trends in Bioresearch , PSR Engineering College, Sivakasi (2020).
9. Webinar on “Role of chemical Engineering in Industrial safety” organized by Saveetha Engineering College, Chennai (2020).
10. Webinar on “Recent Trends in Bioresearch” organized by PSR Engineering College, Sivakasi (2020).
11. Hands-on training on Molecular Biology Techniques K.S. Rangasamy College of Technology, Tiruchengode (2018).
12. One day National Workshop on “Preparation of Herbal products” organized by K.S. Rangasamy College of Technology, Tiruchengode, Namakkal District, Tamil Nadu. (2018).
13. One day National Workshop on “Writing Research Papers, Plagiarism and Citation analysis”, organized by Society for the advancement of Library and Information science, Chennai. (2015)

14. One day National Workshop on “Trends in Reaction & Environmental Engineering”, Organized by, Department of Chemical Engineering, Indian Institute of Technology, Madras, Tamil Nadu. (2013)
15. Three days course on “Quantitative Tools for Research”, Organized by Department of Mechatronics Engineering, Kongu Engineering College, Perundurai, Tamil Nadu. (2013)
16. Two days National Workshop on “Computational Simulation and Analysis for Scientists & Engineers”, Organized by Rural Energy Centre, GRI, Gandhigram Rural Institute-Deemed University, Dindigul, Tamil Nadu. (2012)
17. Two days National Workshop on “Remediations for Clean and Green Environment”, Organized by Department of Chemical Engineering, National Institute of Technology, Trichy, Tamil Nadu. (2012).
18. One day National Workshop on “Software Training on Statistical Analysis Tool – SPSS”, organized by Department of Biotechnology, K.S.Rangasamy College of Technology, Tiruchengode, Tamil Nadu. (2011)
19. One week training program on “Computational Fluid Dynamics" Conducted by Sigma Training Centre, Pollachi, Tamil Nadu. (2010)
20. One week Workshop on “Human DNA finger printing & Basic Tools in Bioinformatics”, Organized by Department of Biotechnology, P.S.R.Engineering College, Sivakasi. (2007)
21. One day National Workshop on “Safety Hazard & Risk Assessment in Process Industries”, Organized by Department of Chemical Engineering, National Institute of Technology, Trichy, Tamil Nadu. (2006).

16. List of Faculty Development Programmes attended

1. Faculty development Programme on ‘Advancements in Biotechnology and Chemical Engineering’ Vel Tech Hi Tech Engineering College, Chennai (2020).
2. Short Term Training Programme – Webinar Series on “Wastewater Treatment and Characterization Techniques - Hands On Experience”, Manipal Institute of Technology (2020).
3. Two days faculty development programme on ICT Tools, ICT Academy & KSR College of Engineering, Tiruchengode. (2020)
4. STTP on Problem based learning offered by NITTR, Kolkatta, organized by K.S. Rangasamy College of Technology, Tiruchengode, Namakkal District, Tamil Nadu. (2019).
5. Faculty development Programme on “Biology for Engineers and other Non-biologist” organized by Indian Institute of Technology, Madras, Chennai. (2018)

6. Faculty development Programme on “Emerging Trends in Biochemical Engineering” organized by Department of Industrial Biotechnology, Government College of Technology, Coimbatore, Tamil Nadu. (2015).
7. Short Term training Programme on “Novel Techniques in Basic Research and Emerging Areas of Biotechnology” organized by Department of Biotechnology, Adhiyamaan College of Engineering, Hosur, Tamil Nadu.(2013)
8. Short Term training Programme on “Emerging Technologies in Chemical and Biochemical Engineering (ETChE-2012) organized by Department of Chemical Engineering, Annamalai University, Tamil Nadu. (2012)

Books published

P. Ponmurugan, J. Philip Robinson, **S. Poornima**. 2020. ‘Research Methodology (Volume - 1)’. ISBN: 978-93-90541-08-9.

Book Chapters published

1. V Karthik, A Vigneshwaran, D Dharun Daniel Raj, TGN Nagarjun, S Poornima, R Subbaiya, M Saravanan. (2022). ‘Nanomaterials for Gene Therapy, John Wiley & Sons, Ltd. doi.org/10.1002/9781119558026.ch6.

Source Title: ‘Nanomaterials and Nanotechnology in Medicine’

2.Karthik Vivekanandhan, **Poornima Shanmugam**, Balasubramanian Mythili Gnanamangai and Subbaiya Ramasamy. (2021). ‘Role of Micro and Nano Motors in Therapeutics and Diagnostics’. DOI: 10.4018/978-1-7998-5049-6.ch011.

Source Title: Handbook of Research on Nano-Strategies for Combatting Antimicrobial Resistance and Cancer.

3. Muthupandian Saravanan, **S. Poornima**, V. Karthik, A. Vigneshwaran, S. Manikandan Subbaiya Ramasamy, R. Balachandar, P. Prakash, Karthikeyan Mahendhran and Murugappan Ramanathan. (2021). ‘Emerging Nano-Based Drug Delivery Approach for Cancer Therapeutics’. DOI: 10.4018/978-1-7998-5049-6.ch013.

Source Title: Handbook of Research on Nano-Strategies for Combatting Antimicrobial Resistance and Cancer.

4. Naresh S., Gnanamangai BM., Mohanraj R., **Poornima S.** and Shalini M. (2019). ‘Electro-culture for increased agriculture productivity-A business idea’. pp. 26-31.

Source Title: Scientific Aids for Sustainable Business

Journal Reviewer

1. Materials letters (Elsevier)
2. Fuel (Elsevier)
3. Sustainable Energy Technologies and assessments (Elsevier)
4. Environmental Research (Elsevier).