



**Dr. S. Gowrishankar**  
**Assistant Professor**

### Contact

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### Academic Qualifications:

Degree	Year of Passing	Subject	Class	Institution
B.Sc.,	April 2007	Microbiology	First class	Kongu College of Arts & Science, Karur - 639 006
M.Sc.,	May 2009	Microbiology	First class with distinction	Bharathidasan University, Tiruchirappalli
Post M.Sc., Diploma	June 2010	Advanced Diploma in Molecular Diagnostics (ADMD)	First class with distinction	Department of Biotechnology, Alagappa University, Karaikudi
Ph.D.	December 2016	Biotechnology		Alagappa University, Karaikudi

### Teaching Experience:

Since January 30, 2016

### Research Experience:

Since October 11, 2010

### Areas of Research

- ✚ Molecular characterization of methicillin resistant- *Staphylococcus aureus* with special emphasis on biofilm formation.
- ✚ Pathogenesis of biofilm forming Gram-positive pathogens and alternative strategies to combat their infections.

### Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	-	01
Project	PG	04	02

### Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
20	18	--	06	02

Cumulative Impact Factor (as per JCR) : 76.30 (Avg. IF: 3.8)  
h-index : 09  
i10 index : 09  
Total Citations : 209

### Funded Research Projects

#### Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	University Grants Commission (UGC), New Delhi	2017	2019	"Deciphering the antivirulence mechanism of marine cyclic dipeptide cyclo(l-leucyl-l-prolyl) against <i>Listeria monocytogenes</i> through proteomic approach"	10.00

2	AURF Start-Up Grant	2018	2019	Efficacy evaluation of phytochemical(s) from <i>Achyranthes aspera</i> L. (amaranthaceae) against various virulence traits of certain human pathogens	1.00
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### Achievements / Awards

- 1) 2008                    **State Eligibility Test** for Lectureship (**SET**) in Life sciences.
- 2) 2009                    Awarded **Studentship** (Rs. 5000 per month for one year) by the Department of Biotechnology (DBT), Government of India for the Post M.Sc., Advanced Diploma in Molecular Diagnostics Programme (July 2009 to June 2010).
- 3) 2011-16                University Grants Commission-**Rajiv Gandhi National Fellowship**
- 4) 2012                    **Second prize for poster presentation** in the International Conference on “Regulatory Network Architecture in Bacteria” held during March 9<sup>th</sup> - 11<sup>th</sup>, 2012 at Sastra University, Thanjavur, India.
- 5) 2013                    **Best poster and cash award** in the “National Seminar on Microbes in Health, Agriculture and Industry” held during February 27<sup>th</sup> - March 1<sup>st</sup>, 2013 at Department of Biotechnology, Alagappa University, Karaikudi, India.
- 6) 2014                    **First prize for oral presentation** in the National Conference on “Bioactive Peptides-Application in Veterinary, Medical and Food Sciences” held during December 18<sup>th</sup> - 19<sup>th</sup>, 2014 at Department of Animal Biotechnology, Madras Veterinary College, Chennai, India.
- 7) 2015                    **International Travel Awards** from
  1. **Indian Council of Medical Research (ICMR)**
  2. **Centre for International Co-operation in Science (CICS)**
 (To attend the 25<sup>th</sup> European Congress of Clinical Microbiology and Infectious Diseases held during April 25<sup>th</sup> -28<sup>th</sup>, 2015 at Copenhagen, Denmark).
- 8) 2017                    **Start-up Grant** for the newly joined faculties of Basic Sciences by **University Grants Commission**, New Delhi, March-2017.

### Events Participated

#### Conferences / Seminars / Workshops: 08

#### Other Training Programs

- **“ZEISS Microscopy Course”** held between 21<sup>st</sup> and 23<sup>rd</sup> May, 2015 organized by Carl Zeiss India (Bangalore) Pvt. Ltd. at **IIT Madras**.

## Overseas Exposure / Visits

- Visited **Copenhagen, Denmark** and presented poster in the 25<sup>th</sup> European Congress of Clinical Microbiology and Infectious Diseases (ECCMID 2015) during 25<sup>th</sup> -28<sup>th</sup> April, 2015.

## Membership in Professional Bodies

1. Life Member : Biotech Research Society of India (BRSI) (LM:1672)
2. Life Member : Indian Initiative for Management of Antibiotic Resistance (IIMAR)

## Others

- ✚ Reviewer for SCI journals such as Gene Reports, Microbial Pathogenesis, Biocatalysis and Agricultural Biotechnology and South African Journal of Botany
- ✚ Sequences submitted in
  - GenBank : 42
  - Multilocus sequence typing (MLST) : 33

## Recent Publications

1. **Gowrishankar, S\***, Pandian, S.K., Balasubramaniam, B., Balamurugan, K., 2018. Quorum quelling efficacy of marine cyclic dipeptide -cyclo(L-leucyl-L-prolyl) against the uropathogen *Serratia marcescens*. *Food and Chemical Toxicology* [Elsevier, France] 123, 326-336 [**Impact Factor: 3.977**].
2. Rameshkumar, R., Satish, L., Pandian, S., Rathinapriya, P., Rency, P.S., **Gowrishankar, S.**, Pandian, S.K., Leung, W.M.D., 2018. Manikandan Ramesh Production of squalene with promising antioxidant properties in callus cultures of *Nilgirianthus ciliates*. *Industrial Crops and Products* [Elsevier, Netherlands] 126, 357 – 367 [**Impact Factor: 3.849.**]
3. Rengasamy, K.R.R., Khan, H., **Gowrishankar, S.**, Lagoa, R.J.L., Mahomoodally, F.M., Khan, Z., Suroowan, S., Tewari, D., Zengin, G., Hassan, S.T.S., Pandian, S.K., 2018. The role of flavonoids in autoimmune diseases: therapeutic updates. *Pharmacology and Therapeutics* [Elsevier, France] [**Impact Factor: 10.376**] org/10.1016/j.pharmthera.2018.09.009.  
◉Equally Contributed.
4. Hassan, S.T.S., Šudomová, M., Berchová-Bímov, K., **Gowrishankar, S.**, Rengasamy, K.R.R., 2018. Antimycobacterial, enzyme inhibition and molecular interaction studies of psoromic acid on Mycobacterium tuberculosis: Efficacy and

- safety investigations. *Journal of Clinical Medicine* [MDPI AG, Switzerland] [Impact Factor: 5.583].
5. Fang, J., Chen, Q., He, B., Ca, J., Yao, Y., Xu, S., **Gowrishankar, S.**, Pandian, S.K., 2018. Tanshinone IIA attenuates TNF- $\alpha$  induced PTX3 expression and monocyte adhesion to endothelial cells through the p38/ NF- $\kappa$ B pathway. *Food and Chemical Toxicology* [Elsevier, France] [Impact Factor: 3.977].
  6. Rubini, D., FarisaBanu, S., Vellingiri, V., RamyaDevi, D., **Gowrishankar, S.**, Pandian, S.K., Nithyanand, P., 2018. Chitosan extracted from marine biowaste mitigates staphyloxanthin production and biofilms of Methicillin- resistant *Staphylococcus aureus*. *Food and Chemical Toxicology* [Elsevier, France] [Impact Factor: 3.977].
  7. FarisaBanu, S., Rubini, D., Murugan, R., Vellingiri, V., **Gowrishankar, S.**, Pandian, S.K., Nithyanand, P., 2018. Exploring the antivirulent and sea food preservation efficacy of Essential oil combined with DNase on *Vibrio paraholyticusaem*. *LWT Food Science and Technology* [Elsevier, France] [Impact Factor: 3.129].
  8. FarisaBanu, S., Rubini, D., Shanmugavelan, P., Murugan, R., **Gowrishankar, S.**, Pandian, S.K., Nithyanand, P., 2018. Effect of patchouli and cinnamon essential oil on biofilm and hyphae formation by *Candida* spp. *Journal of Medical Mycology* [Elsevier, France] (2):332-339. [Impact Factor: 1.606].
  9. Satish, L<sup>•</sup>., Santhakumari, S<sup>•</sup>., **Gowrishankar, S<sup>•</sup>.,** Pandian, S.K., Ravi, A.V., Ramesh, M., 2017. Rapid biosynthesized AgNPs from *Gelidiella acerosa* aqueous extract mitigates quorum sensing mediated biofilm formation of *Vibrio* species - An *in vitro* and *in vivo* approach. *Environmental Science and Pollution Research* [Germany (Berlin): Springer] [Impact Factor: 2.8]. DOI: 10.1007/s11356-017-0296-4.  
•Equally Contributed.
  10. Kannappan, A., **Gowrishankar, S.**, Srinivasan, R., Pandian, S.K., and Ravi, A.V., 2017. Antibiofilm activity of *Vetiveria zizanioides* root extract against methicillin-resistant *Staphylococcus aureus*. *Microbial Pathogenesis* [Elsevier, London] 110 (2017): 313e324 [Impact Factor: 2.3].
  11. FarisaBanu, S., Rubini, D., Rakshithaa, S., Sekar, C.K., Wilson, A., **Gowrishankar, S.**, Pandian, S.K., and Nithyanand, P., 2017. Antivirulent properties of underexplored Cinnamomum tamala essential oil and its synergistic effects with DNase against *Pseudomonas aeruginosa* biofilms - an *in vitro* study. *Frontiers in Microbiology* [Lausanne: Frontiers Media SA] DOI: 10.3389/fmicb.2017.01144. [Impact Factor: 4.076].
  12. **Gowrishankar, S** & Pandian, S.K, 2017. Modulation of *Staphylococcus epidermidis* (RP62A) extracellular polymeric layer by marine cyclic dipeptide-cyclo(L-leucyl-

- L-prolyl) thwarts biofilm formation. *Biochim Biophys Acta Biomembranes* [Elsevier, The Netherlands] 14;1859(7):1254-1262. [Impact Factor: 3.687].
13. Sivaranjani, M, Prakash, M, **Gowrishankar, S**, Nandhini, J.R, Pandian, S.K, 2017. *In vitro* activity of  $\alpha$ -mangostin in killing and eradicating *Staphylococcus epidermidis* RP62A biofilms. *Applied Microbiology and Biotechnology*. [Springer International, New York ] 101(8):3349-3359. [Impact Factor: 3.42].
  14. **Gowrishankar, S.**, Kamaladevi, A., Balamurugan, K., and Pandian, S.K., *In vitro* and *in vivo* biofilm characterization of community-acquired methicillin-resistant *Staphylococcus aureus* from patients associated with pharyngitis infection. *BioMed Research International* [Hindawi Publishing Corp., New York] 2016, 1-14 Article ID 1289157 [Impact Factor: 2.583].
  15. Sivaranjani, M., **Gowrishankar, S.**, Kamaladevi, A., Pandian, S.K., Balamurugan, K., and Ravi, A.V., 2016. Morin inhibits biofilm production and reduces the virulence of *Listeria monocytogenes*- An *in vitro* and *in vivo* approach. *International Journal of Food Microbiology* [Elsevier, The Netherlands] 237, 73-82 [Impact Factor: 3.445].
  16. **Gowrishankar, S.**, Sivaranjani, M., Kamaladevi, A., Ravi, A.V., Balamurugan, K., Pandian, S.K., 2016. Cyclic dipeptide cyclo(L-leucyl-L-prolyl) from marine *Bacillus amyloliquefaciens* mitigates biofilm formation and virulence in *Listeria monocytogenes*. *Pathogens and Disease* [FEMS, Oxford University Press, USA] 74, 4, 49-60. [Impact Factor: 2.483].
  17. **Gowrishankar, S.**, Kamaladevi, A., Ayyanar, K.S., Balamurugan, K., Pandian, S.K., 2015. *Bacillus amyloliquefaciens*-secreted cyclic dipeptide - cyclo(L-leucyl- L-prolyl) inhibits biofilm and virulence production in methicillin-resistant *Staphylococcus aureus*. *RSC Advances* [Royal Society of Chemistry, England] 5, 95788-95804. [Impact Factor: 3.840].
  18. **Gowrishankar, S.**, Poornima, B., Pandian, S.K., 2014. Inhibitory efficacy of cyclo(L-leucyl-L-prolyl) from mangrove rhizosphere bacterium-*Bacillus amyloliquefaciens* (MMS-50) toward cariogenic properties of *Streptococcus mutans*. *Research in Microbiology* [Elsevier, New York, USA] 165, 278-289. [Impact Factor: 2.889].
  19. **Gowrishankar, S.**, Thenmozhi, R., Balaji, K., Pandian, S.K., 2013. Emergence of methicillin-resistant, vancomycin-intermediate *Staphylococcus aureus* among patients associated with group A Streptococcal pharyngitis infection in southern India. *Infection, Genetics and Evolution* [Elsevier, New York, USA] 14, 383-389 [Impact Factor: 3.264].
  20. **Gowrishankar, S.**, Mosioma, N.D., and Pandian, S.K., 2012, Coral-associated bacteria as a promising antibiofilm agent against methicillin-resistant and -susceptible *Staphylococcus aureus* biofilms. *Evidence-Based Complementary and Alternative Medicine* [Hindawi Publishing Corp., New York] 2012, 862374

### Abstracts Published in Conferences

1. **Gowrishankar, S.**, and Pandian, SK., 2012, Inhibitory effect of coral-associated bacterial extracts on methicillin-resistant and susceptible *Staphylococcus aureus* biofilms. *Clinical Microbiology and Infection* 18(S3): R2416 [Wiley, Paris] DOI: 10.1111/j.1469-0691.2012.03803.x [Impact Factor 5.768].
2. Pandian, S.K., and **Gowrishankar, S.**, 2012, Molecular characterization of methicillin-resistant *Staphylococcus aureus* with emergence of epidemic clone of sequence type (ST) 772 and novel ST 2129 in southern India. *Clinical Microbiology and Infection* 18(S3): R2531 [Wiley, Paris] DOI: 10.1111/j.1469-0691.2012.03803.x [Impact Factor 5.768].

### Book Chapters

1. **Gowrishankar, S.**, & Pandian, 2017. Flavonoids in the Treatment of Pulmonary Lung Diseases. In: *Recent Advances in the Molecular Mechanism of Flavonoids*, K Pandima Devi (Ed.) [Studium Press (India) Pvt. Ltd. ISBN: 978-93-85046-21-6].
2. Kamaladevi, A., **Gowrishankar, S.**, & Balamurugan, K., *Klebsiella* spp. as a pathogen: Epidemiology, pathogenesis, identification, treatment and prevention. In: A bacterial infection Series, *Handbook of Foodborne Diseases*, Dongyou Liu (Eds.) [CRC Press, Taylor and Francis Group, USA]. Chapter 33.