

Faculty Profile of Dr. J. Manivannan



Dr. J. Manivannan
Assistant Professor
Department of Environmental Sciences

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Research Area

- Environmental Health and Medicine
- Molecular Systems Biology
- Exposomics and Toxicomics

Education & Career

Education

Ph. D.

Subject : Biotechnology

Institution : Annamalai University

Affiliated University : Annamalai University

Year of Award : 2014

M.Phil.,

Subject : Biotechnology

Institution : Annamalai University

Affiliated University : Annamalai University

Year of Award : 2011

M.Sc.,

Subject : Biotechnology

Institution : Annamalai University

Affiliated University : Annamalai University

Year of Award : 2009

Career**At Bharathiar University (Reverse Order)**

Assistant Professor : **** to Till Date

Past Experience

Post-doctoral Fellow: April 2014 to Jan 2016 at Anna University – KBC RC

Young Scientist : Feb 2016 to Nov 2016 at Anna University – KBC RC

Awards**Travel awards**

Academic Awards

Awarding agency: Ramasamy Padayatchiyar Endowment award- Annamalai University

Purpose of award: Best performance

Year: 2011

Membership

Professional Bodies

Academic Bodies

Society for Biological Chemists

Member:Life

Period:2016 onwards

International Society for Heart Research

Member:Life

Period:2016 onwards

Indian Biotechnological Society

Member:Life

Period:2016 onwards

Visits

Collaborators

Others

Projects

Funded Projects(National Level)

- [Ongoing - 01](#)
- [Completed - 01](#)

1. Science and Engineering Research Board (SERB)

Title of the project :Exploring novel pathwaysinvolved in oxidized lowdensity lipoprotein (oxLDL) induced vascular smoothmuscle cell (VSMC) foam cellformation in atherosclerosis and pharmacological effects ofmitochondria targetedantioxidant -mitoTEMPO

Funding Agency :Science and Engineering Research Board (SERB)

Amount :Rs. 19,25,000

Duration :2016-2019

1.Tamil Nadu State Council for Higher Education (TANSCH)

Title of the project : Traffic related air pollution (TRAP) hotspots in Coimbatore city and its adverse impacts on human health – a multidisciplinary environmental health study

Funding Agency :Tamil Nadu State Council for Higher Education (TANSCH)

Amount : Rs.Rs. 33,78,500

Duration :2021-2024

Consultancy Projects

- [Ongoing](#)
- [Completed](#)

Research Guidance

- [Post Doc](#)
- [Ph.D](#)
- [M.Phil](#)
- [M.Sc.](#)

Ongoing

S. No: 1

Student Name: M. Nagarajan

Title of Thesis: Systemic effects of BPA under hypertension – an
Experimental Toxicopathological study

Status: Ongoing

Awarded

Ongoing

Completed

Ongoing

Test M.Sc. Ongoing

Completed

S. No: 11

Student Name: Maadurshni G B

Title of Thesis: Molecular toxic effects of aluminium oxide nanoparticles
(Al₂O₃-NPs) on vascular system

Year of Award:2021

Status: Completed

S. No: 10

Student Name: Udayakumar I

Title of Thesis: Spectroscopic studies on the toxic effect of Aluminium oxide
nanoparticles (Al₂O₃)

Year of Award:2021

Status: Completed

S. No: 9

Student Name: Tharani G K

Title of Thesis: Toxicopathogenic effect of aluminium oxide nanoparticles

(Al₂O₃-NPs) on embryonic liver development

Year of Award:2021

Status: Completed

S. No: 8

Student Name: Jeeva

Title of Thesis: Chemico-Biological Interaction Studies on Zinc Oxide Nanoparticles (ZnO-NPs) - An Environmental Health Perspective

Year of Award:2020

Status: Completed

S. No: 7

Student Name: Gayathri

Title of Thesis: Toxicological effects of zinc oxide nanoparticles (ZnO - NPs) exposure on cardiovascular system during embryonic development

Year of Award:2020

Status: Completed

S. No: 6

Student Name: S. Gorbasave

Title of Thesis: Traffic related air pollution (PM 2.5 and PM 10) in Bharathiar University Environment – A pilot study

Year of Award: 2019

Status: Completed

S. No: 5

Student Name: J. Santhiya

Title of Thesis:Effect of nickel on nucleic acid metabolism in yeast cells – a molecular toxicity study

Year of Award:2019

Status: Completed

S. No: 4

Student Name: Anupama Prakash

Title of Thesis: Effects of Nickel on lipid metabolism in yeast cells– a molecular toxicity study

Year of Award: 2019

Status: Completed

S. No: 3

Student Name: P A Sharon

Title of Thesis: Impacts of urbanization process on surface water quality in chatai chapori water way

Year of Award:2019

Status: Completed

S. No: 2

Student Name: T. Aswathi

Title of Thesis: Effects of the molecular toxic effects on nickel on developing chick embryo muscle - an environmental health approach

Year of Award:2018

Status: Completed

S. No: 1

Student Name: Sarangi S

Title of Thesis: Effects of the molecular toxic effects on nickel on developing chick embryo heart - an environmental health approach

Year of Award:2018

Status: Completed

Research Publication

- [International](#)
- [National](#)
- [Patent](#)
- [Conference](#)
- [Books/Chapters](#)
- [Database](#)

2021

Accordion content 1.

1. [Thalidomide and its analogs differentially target Fibroblast Growth Factor Receptors: Thalidomide suppresses FGFR gene expression while pomalidomide dampens FGFR2 activity](#)

Name of the Authors : L Sundaresan, P Kumar, J Manivannan, S Chatterjee
Chemical Research in Toxicology 32 (4), 589-602 (2019).

2. [A proteome-wide systems toxicological approach deciphers the interaction network of chemotherapeutic drugs in the cardiovascular milieu](#)

Name of the Authors : S Giri, J Manivannan, B Srinivasan, S Chatterjee.
RSC Advances 8, 20211-20221(2018)

3. [Transcriptomic analysis of thalidomide challenged chick embryo suggests possible link between impaired vasculogenesis and defective organogenesis](#)

Name of the Authors :V Veeriah, P Kumar, L Sundaresan, Z Mafitha, J.Manivannan, S.Chatterjee
Chemical Research in Toxicology 30 (10), 1883-1896 (2017).

4. [A novel liquid chromatography/tandem mass spectrometry \(LC-MS/MS\) based bioanalytical method for quantification of ethyl esters of Eicosapentaenoic acid \(EPA\) and Docosahexaenoic acid \(DHA\) and its application in pharmacokinetic study](#)

Name of the Authors :S Viswanathan, PRP Verma, MGanesan, J Manivannan.
J Pharm Biomed Anal.141:250-261 (2017)

5. [Oxidative environment causes molecular remodeling in embryonic heart-a metabolomic and lipidomic fingerprinting analysis](#)

Name of the Authors :S Manickaraj, D Thirumalai, P Manjunath P, V Sekarbabu, Jeganathan M.
Life Science Archives 3 (2), 981-985(2017)

6. [Environmental endocrine disrupting chemicals \(EDCs\) and its systems level toxicological mechanisms – an environmental health study](#)

Name of the Authors :J Manivannan and S Usha
J Pharm Biomed Anal.141:250-261 (2017)

7. [Disturbed flow mediated modulation of shear forces on endothelial plane: a proposed model for studying endothelium around atherosclerotic plaques](#)

Name of the Authors :UM Balaguru, L Sundaresan, J Manivannan, R Majunathan, S Chatterjee
Scientific Reports 6 (1), 1-15 (2016)

8.[Prevention of cardiac dysfunction, kidney fibrosis and lipid metabolic alterations in L-NAME hypertensive rats by sinapic acid—Role of HMG-CoA reductase](#)

Name of the Authors : T Silambarasan, J Manivannan, B Raja, S Chatterjee
European Journal of Pharmacology 777, 113-123 (2016)

9.[Systems biological understanding of the regulatory network and the possible therapeutic strategies for vascular calcification](#)

Name of the Authors :J Manivannan, M Prashanth, VS Kumar, M Shairam, J Subburaj
Molecular BioSystems 12 (12), 3683-3694 (2016)

10.[Oral administration of veratric acid, a constituent of vegetables and fruits, prevents cardiovascular remodelling in hypertensive rats: a functional evaluation](#)

Name of the Authors :M Saravanakumar, B Raja, J Manivannan, T Silambarasan
British Journal of Nutrition 114 (9), 1385-1394 (2015)

11.[Sinapic acid protects heart against ischemia/reperfusion injury and H9c2 cardiomyoblast cells against oxidative stress](#)

Name of the Authors :T Silambarasan, J Manivannan, MK Priya, N Suganya, S Chatterjee, B Raja
Biochemical and Biophysical Research Communications 456 (4), 853-859 (2015) DOI:)

12.[Systems pharmacology and molecular docking strategies prioritize natural molecules as cardioprotective agents](#)

Name of the Authors :J Manivannan, T Silambarasan, R Kadarkarairaj, B Raja
RSC Advances 5 (94), 77042-77055 (2015)

13.[Diosgenin, a steroidal saponin, prevents hypertension, cardiac remodeling and oxidative stress in adenine induced chronic renal failure rats](#)

Name of the Authors :J Manivannan, J Shanthakumar, T Silambarasan, E

Balamurugan, B Raja

RSC Advances 5 (25), 19337-19344 (2015)

14. [Sinapic acid prevents hypertension and cardiovascular remodeling in pharmacological model of nitric oxide inhibited rats](#)

Name of the Authors :T Silambarasan, J Manivannan, MK Priya, N Suganya, S Chatterjee, B Raja PloS one 9 (12), e115682 (2014)

15. [Diosmin pretreatment improves cardiac function and suppresses oxidative stress in rat heart after ischemia/reperfusion](#)

Name of the Authors :O Senthamizhselvan, J Manivannan, T Silambarasan, B Raja

European Journal of Pharmacology 736, 131-137 (2014)

16. [Diosgenin interferes coronary vasoconstriction and inhibits osteochondrogenictransdifferentiation of aortic VSMC in CRF rats](#)

Name of the Authors :J Manivannan, J Shanthakumar, P Arunagiri, B Raja, E Balamurugan

Biochimie 102, 183-187 (2014)

17. [Valproic acid attenuates blood pressure, vascular remodeling and modulates ET-1 expression in L-NAME induced hypertensive rats](#)

Name of the Authors :T Rajeshwari, B Raja, J Manivannan, T Silambarasan
Biomedicine and Preventive Nutrition 4 (2), 195-202 (2014)

18. [Valproic acid prevents the deregulation of lipid metabolism and renal renin-angiotensin system in l-NAME induced nitric oxide deficient hypertensive rats](#)

Name of the Authors :T Rajeshwari, B Raja, J Manivannan, T Silambarasan, T Dhanalakshmi Environmental Toxicology and Pharmacology 37 (3), 936-945 (2014)

19. [In Silico Sequence Analysis Homology Modelling and Functional Annotation of Toxin I Hypothetical Protein of Catfish Plotosuslineatus](#)

Name of the Authors :T. R. Barathkumar, J Manivannan, MThangaraj
International Journal of Pharmaceutical & Biological Archives; 4(4): 753 – 757(2013)

20. [Effect of diosgenin on cardiac tissue lipids, trace elements, molecular changes, TNF- \$\alpha\$ and IL-6 expression in CRF rats](#)

Name of the Authors :J Manivannan, J Shanthakumar, K Rajeshwaran, P Arunagiri, E Balamurugan

Biomedicine & Preventive Nutrition 3 (4), 389-392 (2013)

21. [Diosgenin improves vascular function by increasing aortic eNOS expression, normalize dyslipidemia and ACE activity in chronic renal failure rats](#)

Name of the Authors :J Manivannan, E Balamurugan, T Silambarasan, B Raja
Molecular and Cellular Biochemistry 384 (1), 113-120 (2013)

22. [Diosgenin prevents hepatic oxidative stress, lipid peroxidation and molecular alterations in chronic renal failure rats](#)

Name of the Authors :J Manivannan, P Arunagiri, J Sivasubramanian, E Balamurugan

International Journal of Nutrition, Pharmacology, Neurological Diseases;
3:289-93 (2013)

23. [Determination of aluminium induced metabolic changes in mice liver: A Fourier transform infrared spectroscopy study](#)

Name of the Authors :S Sivakumar, J Sivasubramanian, CP Khatiwada, J Manivannan, B Raja

SpectrochimicaActa Part A: Molecular and Biomolecular Spectroscopy 110,
241-248 (2013)

24. [Diosgenin attenuates vascular calcification in chronic renal failure rats](#)

Name of the Authors :J Manivannan, TR Barathkumar, J Sivasubramanian, P Arunagiri, B Raja, E Balamurugan

Molecular and cellular biochemistry 378 (1), 9-18 (2013)

25. Computational systems biology of oxLDL induced macrophage foam cell formation-A multilayer regulatory network analysis of atherogenic process

Name of the Authors :M Prashanth, J Manivannan, T Silambarasan, E. Balamurugan

Journal of Chemical and Pharmaceutical Research; 5(10):39-44 (2013))

26. Computational systems pharmacology and docking explored diosgenin targets causal and effectors pathogenic signalling network of vascular calcification

Name of the Authors :J Manivannan, TRB Kumar, P Arunagiri, E Balamurugan
J. Chem. Pharm. Res 5, 161-167 (2013))

27. [Aluminium induced metabolic changes in kidney and heart tissue of mice: a Fourier transform infrared spectroscopy study](#)

Name of the Authors :S Sivakumar, J Sivasubramanian, J Manivannan, B Raja
RSC Advances 3 (43), 20896-20904 (2013)

28. [Molecular metabolic fingerprinting approach to investigate the effects of borneol on metabolic alterations in the liver of nitric oxide deficient hypertensive rats](#)

Name of the Authors :M Saravanakumar, J Manivannan, J Sivasubramanian, T Silambarasan, B Raja

Molecular and cellular biochemistry 362 (1), 203-209 (2012)

29. Evaluation of in vitro antioxidant and antimicrobial potential of methanolic leaf extract of Anisomeles malabarica (Linn.).

Name of the Authors :B Raja, J Manivannan

Journal of Pharmacy Research 3 (7), 1471-1474 (2010)

2021

2020

Tab 3 Content

Tab 4 Content

Books Edited Year Wise

1.Role of antioxidants in human health

J Manivannan, T Silambarasan, J Shanthakumar, N Suganya

Omega-3 fatty acids: keys to nutritional health

Springer, Pages 501-512, 2016

ISBN 978-3-319-40458-5

2.Nutriomics-systems biology of nutrition

J. Manivannan, K. Rajeshwaran, J. Shanthakumar, P. Arunagiri, T. Tamilselvan
and E. Balamurugan

Food as medicine

Nova science publishers, 441-456 (2013)

ISBN: 978-1-62417-747-7

3.Beneficial effect of fish oil

J. Shanthakumar, P. Arunagiri, K. Rajeshwaran, J. Manivannan and E.
Balamurugan

Food as medicine

Nova science publishers, 37-50(2013)

ISBN: 978-1-62417-747-7

Chapter Edited Year Wise

Tab 6 Content

Alumini Reflections: