

DR. RAVANAN. P

Associate Professor and Head

Department of Microbiology
School of Life Sciences
Central University of Tamil Nadu
Thiruvarur-610005, Tamil Nadu.

Email: ravanan@cutn.ac.in

Phone: +91 9842063012

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GOOGLE SCHOLAR ID: <https://scholar.google.co.in/citations?user=W0ksvJAAAAJ&hl=en>

EDUCATION

Ph.D. – Université de La Réunion, France

M.Sc. – Department of Microbial Technology, Madurai Kamaraj University

B.Sc. – Nehru Memorial College, Bharathidasan University

TEACHING, RESEARCH AND ADMINISTRATIVE EXPERIENCE

I have more than 13 years of Teaching/Research/Administrative experience from various reputed institutes. Since 2010, I worked in the Vellore Institute of Technology (VIT) as a faculty until I joined the Central University of Tamil Nadu, Thiruvarur. Prior to this, I have worked in the Indian Institute of Science, Bangalore and Sanford Burnham Prebys Medical Discovery Institute, USA for my Pre-doctoral (2 years) and postdoctoral (2 years) research experience respectively.

Additionally, I have served as the Head, Department of Biosciences in VIT from 2016 - 2018. The primary role of the position was to manage and lead the M.Sc. Biotechnology programme to achieve the highest possible standards of excellence at the University. This includes curriculum and syllabus designing and development, addressing students' issues, conducting orientation program and quality circle meetings, offering required subjects to students, allotting the right faculties for each subject. Also to conduct faculty meetings at the department level and to be responsible and accountable for implementing the academic strategy of the department in line with faculty and University strategic plans and direction.

RESEARCH INTERESTS

The research of our lab aims at studying how chronic inflammation, endoplasmic reticulum stress, and oxidative stress can affect brain function at the molecular level. These stresses are associated phenomena that often occur concurrently in the neuropathological state; neurotoxicity mediated by these multiple stresses contribute to the pathogenesis and progression of virtually all the neurodegenerative diseases. We aim to study how microglia are able to survive and verily outperform even in this scenario, while keeping the translational aspect in mind. In another line of research, we are interested in understanding how the bacterial components activate ER stress in eukaryotic cells and if the activations benefit the

host organism or the bacteria. Also, we are investigating whether Caspase inhibitors identified by our group can be used to prevent lymphocyte apoptosis during Sepsis, a bacterial infectious disease. We use cell lines, primary cells and mouse models for our research.

RESEARCH GUIDANCE

✚ Ph.D. and M.Sc. Thesis Guidance

- Ph.D. Thesis Awarded: 4
- M.Sc. Thesis awarded: 12

✚ Ph.D. Thesis Co-Director:

- Ph.D. Thesis Awarded: 1 – Indo-French collaboration (Thesis Director: Dr. Christian Lefebvre d'Hellencourt, Université de La Réunion, France)

✚ Current Ph.D. students

- Registered: 2
- Project Assistants: 1

SELECTED PUBLICATIONS

1. Asveda T, Talwar P, **Ravanan P***.
Exploring microglia and their phenomenal concatenation of stress responses in neurodegenerative disorders.
Life Sci. 2023 Sep 1;328:121920.
Link: [doi: 10.1016/j.lfs.2023.121920](https://doi.org/10.1016/j.lfs.2023.121920).
Impact Factor: 6.7
2. Divya S, **Ravanan P***.
Cellular battle against endoplasmic reticulum stress and its adverse effect on health.
Life Sciences. 2023 Apr 17;323:121705.
Link: [doi: 10.1016/j.lfs.2023.121705](https://doi.org/10.1016/j.lfs.2023.121705).
Impact Factor: 6.7
3. **Ravanan P***, Firoz A*, Saha P, Prashar T, Talwar P.
Genome-wide screening and identification of potential kinases involved in endoplasmic reticulum stress responses.
Life Sciences. 2023 Mar 15;317:121452.
Link: [doi: 10.1016/j.lfs.2023.121452](https://doi.org/10.1016/j.lfs.2023.121452).
Impact Factor: 6.7
4. Talwar P*, Singh P, **Ravanan P***
Structure-Based Virtual Screening and Discovery of New Bi-functional DAPK1 inhibitors.
Molecular Biotechnology.
Molecular Biotechnology. 2023 Jun 23.
Link: [doi: 10.1007/s12033-023-00744-9](https://doi.org/10.1007/s12033-023-00744-9).
Impact Factor: 2.9

5. Singla RK, De R, Efferth T, Mezzetti B, Uddin Md S, Sanusi, Ntie-Kang F,...**Ravanan P**,... Atanasov AG, Shen B, The International Natural Product Sciences Taskforce (INPST) and the power of Twitter networking exemplified through #INPST hashtag analysis.
Phytomedicine, Volume 108, Jan 2023, 154520.
Link: <https://doi.org/10.1016/j.phymed.2022.154520>
Impact Factor: 7.9
6. Narra Sai S, Sarah R, Rondeau P, Patche J, Veeren B, Gonthier MG, Viranaicken W, Diotel N, **Ravanan P**, d' Hellencourt CL, Meilhac O*
ApoA-I Nanoparticles as Curcumin Carriers for Cerebral Endothelial Cells: Improved Cytoprotective Effects against Methylglyoxal.
Pharmaceuticals (Basel), 2022 Mar 13: 15(3): 347.
Link: <https://www.mdpi.com/1424-8247/15/3/347>
Impact Factor: 5.2
7. Gopinath PM, Twayana KS, **Ravanan P***, John Thomas, Mukherjee A, Jenkins DF, Chandrasekaran N*.
Prospects on the nano-plastic particles internalization and induction of cellular response in human keratinocytes.
Particle and Fibre Toxicology, 2021 Sep 8;18(1):35.
Link: doi.org/10.1186/s12989-021-00428-9
Impact Factor: 10.0
8. Klionsky DJ, Abdel-Aziz AK, Abdelfatah S, Abdellatif M, ...**Ravanan P**.....,et al.,
Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition).
Autophagy, 2021, 17 (1), 1-382.
<https://doi.org/10.1080/15548627.2020.1797280>.
Link: [doi/full/10.1080/15548627.2020.1797280](https://doi.org/10.1080/15548627.2020.1797280)
Impact factor: 13.0
9. Abdullah A, Talwar P, d'Hellencourt CL, **Ravanan P***.
IRE1 α is critical for Kaempferol-induced neuroblastoma differentiation.
The FEBS Journal, 2019 Apr;286(7):1375-1392.
Link: [doi/full/10.1111/febs.14776](https://doi.org/10.1111/febs.14776)
Impact Factor: 5.6
10. Krishna Deepak RNV, Abdullah A, Talwar P, Fan H, **Ravanan P***.
Identification of FDA-approved drugs as novel allosteric inhibitors of human executioner caspases.
Proteins, 2018 Nov;86(11):1202-1210.
Link: [doi/10.1002/prot.25601](https://doi.org/10.1002/prot.25601)
Impact Factor: 4.0
11. Twayana KS, Chaudhari N, **Ravanan P***.

Prolonged lipopolysaccharide exposure induces transient immunosuppression in BV2 microglia.

Journal of Cellular Physiology, 2019 Feb;234(2):1889-1903. doi: 10.1002/jcp.27064.

Link: [doi/10.1002/jcp.27064](https://doi.org/10.1002/jcp.27064)

Impact Factor: 6.5

12. Chaudhari N, **Ravanan P***.

Bardoxolone methyl induces neuritogenesis in Neuro2a cells.

Pharmacological Reports, 2018 Aug;70(4):730-736.

Link: [doi/10.1016/j.pharep.2018.02.012](https://doi.org/10.1016/j.pharep.2018.02.012)

Impact Factor: 4.4

13. Abdullah A, **Ravanan P***.

The unknown face of IRE1 α - Beyond ER stress.

European Journal of Cell Biology, 2018 Jun;97(5):359-368.

Link: <https://pubmed.ncbi.nlm.nih.gov/29747876/>

Impact Factor: 6.6

14. Anasa VV, Manickam M, Talwar P, **Ravanan P***.

Identification of ASB7 as ER stress responsive gene through a genome wide in silico screening for genes with ERSE.

PLoS One, 2018 Apr 9;13(4):e0194310.

Link: <https://doi.org/10.1371/journal.pone.0194310/>

Impact Factor: 3.7

15. Twayana KS, **Ravanan P***.

Eukaryotic cell survival mechanisms: Disease relevance and therapeutic intervention.

Life Sciences, 2018 Jul 15;205:73-90.

Link: <https://pubmed.ncbi.nlm.nih.gov/29730169/>

Impact Factor: 6.7

16. Abdullah A, **Ravanan P***.

Kaempferol mitigates Endoplasmic Reticulum Stress Induced Cell Death by targeting Caspase 3/7.

Scientific Reports, 2018 Feb 1;8(1):2189. doi: 10.1038/s41598-018-20499-7.

Link: <https://www.nature.com/articles/s41598-018-20499-7>

Impact Factor: 5.0

17. Chaudhari N, Talwar P, Lefebvre D'hellencourt C, **Ravanan P***.

CDDO and ATRA Instigate Differentiation of IMR32 Human Neuroblastoma Cells.

Frontiers in Molecular Neuroscience, 2017 Sep 26;10:310.

Link: <https://www.frontiersin.org/articles/10.3389/fnmol.2017.00310/full>

Impact Factor: 6.2

18. **Ravanan P***, Srikumar IF, Talwar P.

Autophagy: The spotlight for cellular stress responses.

Life Sciences, 2017 Nov 1;188:53-67.

Link: <https://pubmed.ncbi.nlm.nih.gov/28866100/>

Impact Factor: 6.7

19. Singh P, **Ravanan P**, Talwar P*.

Death Associated Protein Kinase 1 (DAPK1): A Regulator of Apoptosis and Autophagy.
Frontiers in Molecular Neuroscience, 2016 Jun 23;9:46.

Link: <https://pubmed.ncbi.nlm.nih.gov/27445685/>

Impact Factor: 6.2

20. Parimisetty A, Dorsemans AC, Awada R, **Ravanan P**, Diotel N, Lefebvre d'Hellencourt C.

Secret talk between adipose tissue and central nervous system via secreted factors-an emerging frontier in the neurodegenerative research.

Journal of Neuroinflammation, 2016 Mar 24;13(1):67.

Link: <https://pubmed.ncbi.nlm.nih.gov/27012931/>

Impact Factor: 9.5

21. Chaudhari N, Talwar P, Parimisetty A, Lefebvre d'Hellencourt C, **Ravanan P***.

A molecular web: endoplasmic reticulum stress, inflammation, and oxidative stress.

Frontiers in Cellular Neuroscience, 2014 Jul 29;8:213.

Link: <https://pubmed.ncbi.nlm.nih.gov/25120434/>

Impact Factor: 6.1

22. Manickam M, **Ravanan P**, Singh P, Talwar P*.

In silico identification of genetic variants in glucocerebrosidase (GBA) gene involved in Gaucher's disease using multiple software tools.

Frontiers in Genetics, 2014 May 27;5:148.

Link: <https://pubmed.ncbi.nlm.nih.gov/24904648/>

Impact Factor: 4.7

23. Andecky RJ, Welsh K, Finlay D, Lee PS, González-López M, Ganji SR, **Ravanan P**, Mace PD, Riedl SJ, Vuori K, Reed JC, Cosford ND*.

Design, synthesis and evaluation of inhibitor of apoptosis protein (IAP) antagonists that are highly selective for the BIR2 domain of XIAP.

Bioorganic and Medicinal Chemistry Letters, 2013, 23 (14), 4253-4257.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3772719/>

Impact factor: 2.9

24. **Ravanan P**, Benosman S, Correa RG, Hou YC, Yu M, Gulen MF, Li X, Thomas J, Cuddy M, Matsuzawa Y, Sano R, Matsuzawa S and Reed JC*.

Interleukin-1 Receptor-Associated Kinase-2 (IRAK2) Is a Critical Mediator of Endoplasmic Reticulum (ER) Stress Signaling.

PLoS One 2013, 8(5): e64256. Doi:10.1371/journal.pone.0064256.

Link: <https://pubmed.ncbi.nlm.nih.gov/23724040/>

Impact factor: 3.7

25. **Ravanan P**, Sano R, Talwar P, Ogasawara S, Matsuzawa S, Cuddy M, Singh SK, Rao GS, Kondaiah P, Reed JC*.
Synthetic triterpenoid cyano enone of methyl boswellate activates intrinsic, extrinsic, and endoplasmic reticulum stress cell death pathways in tumor cell lines.
Molecular Cancer Therapeutics, 2011, 10(9), 1635-43.
Link: <https://mct.aacrjournals.org/content/10/9/1635>
Impact factor: 6.0
26. **Ravanan P**, Singh SK, Rao GS, Kondaiah P*.
Growth inhibitory, apoptotic and anti-inflammatory activities displayed by a novel modified triterpenoid, cyano enone of methyl boswellates.
Journal of Biosciences, 2011, 36(2), 297-307.
Link: <https://pubmed.ncbi.nlm.nih.gov/21654084/>
Impact factor: 2.7
27. **Ravanan P**, Harry GJ, Awada R, Hoareau L, Tallet F, Roche R, Lefebvre d'Hellencourt C*. Exposure to an organometal compound stimulates adipokine and cytokine expression in white adipose tissue.
Cytokine, 2011, 53(3):355-62.
Link: <https://pubmed.ncbi.nlm.nih.gov/21194965/>
Impact factor: 4.0
28. Hoareau L, Bencharif K, Rondeau P, Murumalla R, **Ravanan P**, Tallet F, Delarue P, Cesari M, Roche R*, Festy F*.
Signaling pathways involved in LPS induced TNFalpha production in human adipocytes.
Journal of Inflammation (Lond), 2010 Jan, 7 (8), 1. doi: 10.1186/1476-9255-7-1.
Link: <https://pubmed.ncbi.nlm.nih.gov/20148136/>
Impact factor: 6.2
29. Hoareau L, Buyse M, Festy F, **Ravanan P**, Gonthier MP, Matias I, Petrosino S, Tallet F, d'Hellencourt CL, Cesari M, Di Marzo V, Roche R*.
Anti-inflammatory effect of palmitoylethanolamide on human adipocyte.
Obesity, 2009, 17(3):431-8.
Link: <https://pubmed.ncbi.nlm.nih.gov/19131941/>
Impact factor: 9.2
30. Subba Rao GS*, Kondaiah P, Singh SK, **Ravanan P**, Sporn MB.
Chemical modifications of natural triterpenes - glycyrrhetic and boswellic acids: evaluation of their biological activity.
Tetrahedron, 2008, 64(51):11541-11548.
Link: <https://pubmed.ncbi.nlm.nih.gov/20622928/>
Impact factor: 2.3

31. Hoareau L, **Ravanan P**, Gonthier MP, Delarue P, Gonçalves J, Césari M, Festy F, Roche R*.

Effect of PEA on LPS inflammatory action in human adipocytes.

Cytokine, 2006, 34(5-6):291-296.

Link: <https://pubmed.ncbi.nlm.nih.gov/16884908/>

Impact factor: 4.0

***Corresponding author**

RESEARCH GRANTS

- o **Funding Agency:** Science and Engineering Research Board (SERB), Department of Science and Technology (DST), INDIA. Title: Small Molecule modulators targeting endoplasmic reticulum stress response pathways. Amount: INR 24,000,00; funding period: 3 years (Aug 2013 to 2016).
- o **Funding Agency:** Science and Engineering Research Board (SERB), Department of Science and Technology (DST), INDIA. Title: Small molecules modulators for Autophagy; Amount: INR 53,000,00; funding period: 4 years (Aug 2016 to 2020).
- o **Funding Agency:** Science and Engineering Research Board (SERB), Department of Science and Technology (DST), INDIA. Title: Screening of inhibitors targeting multiple cellular stress responses in microglial cells; Amount: INR 63,36,000; funding period: 3 years (Feb 2022 to 2025).
- o **Funding Agency:** Science and Engineering Research Board (SERB), Department of Science and Technology (DST), INDIA. Title: Investigating the anti-neuroinflammatory activity of flavonoids and the underlying mechanism of action in microglial cells; Amount: INR: 3211780; funding period: 3 years (2022 to 2025)
- o **Funding Source:** VIT University, Vellore, India. Title: Synthetic triterpenoid induces neuroblastoma differentiation Amount: INR 3,00,000; funding period: 2015-2017.
- o **Funding Source:** VIT University, Vellore, India. Title: Involvement of IRAK4 in Endoplasmic Reticulum stress, Amount: INR 2,00,000; funding period: 2017-2018.

CONFERENCES ATTENDED (2020-2023)

- a. Mechanism of Nano-plastic particle internalization in cellular model, International conference on Bioprocess for sustainable environment and energy (ICBSEE, 2022), National Institute of Technology, Rourkela, 20-24th June 2022.
- b. International e-Conference on Bioengineering for Health & Environment (ICBHE 2022) organized by Sathyabama Institute of Science and Technology, India and MAHSA University, Malaysia held on 15th and 16th December 2022.

FACULTY DEVELOPMENT PROGRAM ATTENDED (2020-2023)

- a. Five days online Faculty development Programme on “Measures to Mitigate Climate Change” conducted from 12th to 16th Oct 2020.
- b. Ten days training Programme on “Medicinal and Aromatic Plants Diversity, Utilization and their Conservation” organized under National Medicinal Plants Board funded project from 1st June to 10th June 2021, through online mode.

INVITED TALKS (2020-2023)

- a) An Emphasis on ER stress: Unveiling the ER Stress Marvel, Université de La Reunion, France, 17th March 2021.
- b) Kaempferol: An inhibitor of ER stress; and an activator of IRE1 α , Université de La Reunion, France, 5th April 2022.
- c) Mechanism of Nano-plastic particle internalization in cellular model, International conference on Bioprocess for sustainable environment and energy (ICBSEE, 2022), National Institute of Technology, Rourkela, 20-24th June 2022.
- d) The Fate of Nano-plastics exposure on keratinocytes, Mahsa University, Malaysia, 6th Oct 2022.
- e) Keynote Speaker- Plastics: A frenemy of mankind, International e-Conference on Bioengineering for Health & Environment (ICBHE - 2022) organized by Mahsa University, December 15th & 16th 2022.
- f) Invited talk: RNAi technology in Cell and Molecular Biology Research, 8th Dec 2023, VIT University, Vellore.
- g) The Fate of Microplastics in Human Keratinocytes, Meenakshi Chandrasekharan College for Women, Pattukottai, 10th March 2023.
- h) The Fate of Microplastics in Human Keratinocytes, Université de La Reunion, France, 15th March 2023.

CONFERENCES ORGANIZED (2020-2023)

- i. Double Identity of Bcl-2 Family proteins, Dr. Charitha Madiraju, Associate Professor, Immunology, Marshall B. Ketchum University, CA, USA; Organizer: Dr. Ravanan P
- ii. Chandrayaan-3 Mission, Live Stream, Organized by the Department of Microbiology, School of Life Sciences, CUTN, July 14th 2023; Organizer: Dr. Ravanan P

AWARDS, FELLOWSHIPS AND RECOGNITION

- ✚ **Raman Charpak Fellowship 2022** (Indo-French fellowship), Mathilde Blancard - RCF-FRM-00287 (student from France) for Masters Project internship.
- ✚ **Innovative Research Award** – 3rd International Conference on Bioprocess for Sustainable Environment and Energy (Hybrid mode), 20th June – 24th June 2022, National Institute of Technology (NIT), Rourkela.
- ✚ **ERASMUS Fellowship**-Mobilité internationale de credits (2019-2022), between Functional Genomics Lab, Central University of Tamil Nadu and Université de La Reunion, France.
- ✚ **Invited expert Teacher & Researcher Fellowship** (March 4th – 14th 2017) offered by Université de la Réunion, France.
- ✚ **Research Award** for contributing to the “increase of h index” of VIT University through publication (2017), VIT University, Vellore.
- ✚ **Ph.D. Fellowship** (2004-2007) from “Allocation Régionale de Formation Doctorale-Session 2004”- La Réunion, France.
- ✚ **Visiting Researcher Fellowship** (Oct 2004-Nov 2004): Sapporo Medical University, Sapporo, Japan.
- ✚ **Reviewer for Funding agency:** Natural Sciences and Engineering Research Council of Canada (NSERC), Canada

✚ **Reviewer for the journals:** Nature-Oncogene, Nature-Cell Death and Disease, Nature-Scientific Reports, FASEB Journal, Molecular Neurobiology, Oncotarget, Cellular Physiology and Biochemistry, Advances in Nutrition, Cell and Tissue Research, Brain Research Bulletin, Life Sciences, Digestive Diseases and Sciences, Experimental Biology and Medicine, Neurochemical Research, Cell Biology International.

COURSES OFFERED TO THE MASTER'S AND BACHELOR'S STUDENTS

Molecular Medicine, Animal Biotechnology, Medical Biotechnology, Genetic engineering, Cell Biology, Techniques in Biotechnology, Techniques in Microbiology, Genomics and Proteomics, Research Methodology, Molecular Biology, Virology (1 credit), Molecular Pharmacology and Drug Discovery (1 credit), Medical Microbiology (1 credit), Pharmaceutical Microbiology (1 credit).
