

## CURRICULUM VITÆ

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### ACADEMIC QUALIFICATION

- B.Sc., Zoology, Madurai Kamarajar University, Madurai, India, May 1998.
- M. Sc., Zoology, Bharathiar University, Coimbatore, India, June 2000.
- M. Phil., Zoology, Bharathiar University, Coimbatore, India, November 2002.
- Ph.D., Biological Sciences, Kyngpook National University, Daegu, Korea Republic, February 2012. World Ranking- 337.

### RESEARCH EXPERIENCE – 10 YEARS

- ❖ Post-doctoral July 2013 to Jan 2016 Cellular Homeostasis Research center, Ewha woman's University, Korea Republic.
- ❖ Worked as a Researcher March 2004 to February 2007 Hormone Research Center, Chonnam National University, Kwangju, Korea Republic.
- ❖ Worked as a Researcher March 2003 to February 2004 Korea Research Institute of Bioscience and Technology, Korea Republic.

### TEACHING EXPERIENCE – 6 YEARS

- ❖ Guest faculty in Bharathiar University, Coimbatore from July 2007 to July 2008.
- ❖ Worked as Assistant Professor in Catholic University, Korea Republic from June,2012 to May,2013
- ❖ As an Assistant professor in Bharathiar University, Coimbatore from November 2016 till now.

## **THRUST AREA OF REASERCH**

- ✓ Biomaterials -Drug Delivery, Population Genetics, Proteomics.

## **AWARDS/ HONORS RECEIVED**

- ✓ OVERSEAS CONSTRIBUTION AWARD from International Conference of Blood and Marrow Transplantation September 1 to 3 2022
- ✓ Young Scientist Award from National Conference on ANTHROPOLOGY: BIOLOGICAL DIVERSITY AND AFFINITIES - A CRITICAL RETHINKING OF THE ENDURING ISSUES IN INDIA- 17&18<sup>th</sup> March 2022.
- ✓ Korea Research foundation award from Korea Republic on 01.03.2003
- ✓ Young scientist award from Korean Human Proteome Organization on 27.03.2014
- ✓ National Research foundation award from Korea Republic on 01.09.2008
- ✓ Brain Korea-21 award from Korea Republic on 01.03.2004.

## **MEMBERSHIP OF PROFESSIONAL BODIES**

- ✓ Korean Society for Biochemistry and Molecular Biology, Human Proteome Organization, Korean Human Proteome Organization

## **SERVICE AS REVIEWER**

- Reviewer in African Journal of Microbiology Research.
- African Journal of Pharmacy and Pharmacology.
- Journal of Medicinal Plant Research.

## **RESEARCH GUIDANCE**

Ph.D : 2 Completed & 2 Ongoing; M.Phil 2 Completed & 1 Ongoing; M.Sc: 24 Completed & 5 Ongoing.

## **SUMMARY OF SCIENTIFIC OUTPUT (UPTO 2023)**

Total No. of publications : 48 (International: 46; National: 2); Book Chapter:02; Total citation: **1813**. I10 index: **20**; h- index: **18**. Cumulative impact factor: **182.658**.

## **SIGNIFICANT PUBLICATIONS**

### **PUBLICATIONS:**

1. A. Elangovan, D. Venkatesan, P. Selvaraj, Md. Y. Pasha, H. W. Suresh Babu, M. Iyer, A. Narayanasamy, M. D. Subramaniam, A. V. Gopalakrishnan, N. S. Kumar, B. Vellingiri. miRNA in Parkinson's disease: From pathogenesis to theranostic approaches. Journal of cellular physiology. 2022. (Impact Factor: 6.513) (SCI).
2. M. Kavitha, D. Jayachandran, S. Y. Aishwarya, P. Md. Younus, A. Venugopal, H. W.

- Suresh Babu, E. Ajay, M. Sanjana, N. Arul, V. Balachandar. A new insight into the diverse facets of microRNA-31 in oral squamous cell carcinoma. *Egyptian Journal of Medical Human Genetics*. 2022. (SCI).
3. T. Saranya, M. Paulpandi, V. Balachandar, N. Arul. Biosynthesis, Characterization, Nematicidal Efficacy of Silver Nanoparticles Synthesized using *Solanum nigrum* Fruit against Root Knot Nematode *Meloidogyne incognita*. *Nanoscience and Nanotechnology: An Indian Journal*.2022. (Impact Factor: 4.48) (SCI).
  4. B. Vellingiri, M. Chandrasekhar, S Sri Sabari, A. V. Gopalakrishnan, A. Narayanasamy, D. Venkatesan, M. Iyer, K. Kesari, A. Dey. Neurotoxicity of pesticides–A link to neurodegeneration. *Ecotoxicology and Environmental Safety*. 2022. (Impact Factor: 7.129) (SCI).
  5. M. Iyer, A. Venugopal, M. Chandrasekhar, A. Suriyanarayanan, K. Balasubramani, A. S. Ilangovan, S. Kamalakannan, R. Gunaseelan, N. Ayyadurai, A. V. Gopalakrishnan, L. Rachaiah Balraj, I. Aghil, S. Palanisamy, B. Vellingiri, A. Narayanasamy. Electrical based cancer therapy for solid tumours - Theranostics approach. *Biosensors and Bioelectronics: X*.2022. (SCI).
  6. T. Saranya, S. Ramya, K. Kavithaa, M. Paulpandi, Y. Cheon, S. Harysh Winstler, V. Balachandar, N. Arul. Green Synthesis of Selenium Nanoparticles Using *Solanum nigrum* Fruit Extract and its Anti-cancer Efficacy Against Triple Negative Breast Cancer. *Journal of cluster science*. 2022. (Impact Factor: 3.447) (SCI).
  7. D. Venkatesan, A. Elangovan, S. Harysh Winstler, Md Younus Pasha, K. Susan Abraham, J . Satheeshkumar, P. Sivaprakash, A. Niraikulam, A. V. Gopalakrishnan, A. Narayanasamy, B. Vellingiri. Diagnostic and therapeutic approach of artificial intelligence in neuro-oncological diseases. *Biosensors and Bioelectronics: X*.2022. (SCI).
  8. D. Venkatesan, M. Iyer, S. *et al*. Genotypic-Phenotypic Analysis, Metabolic Profiling and Clinical Correlations in Parkinson's Disease Patients from Tamil Nadu Population, India. *Journal of Molecular Neuroscience*. 2022. (Impact Factor- 3.444) (SCI).
  9. B. Rangasamy, M. Ramesh, D. Hemalatha, C. Shobana, A. Narayanasamy. Assessment of hematological and biochemical alterations as markers in an Indian major carp *Catla catla* exposed to various concentrations of zinc oxide nanoparticles. *International Journal of Aquatic Biology*. 2022. (SCI).
  10. V. Balachandar, S. Atchaya, S. Priyanka, S.A . Kripa, Md. Younus Pasha, S. Harysh Winstler, A. V. Gopalakrishnan, G. Singaravelu, Janardhana kumar reddy, N. Ayyadurai, R. K. Nandha, G. Bupesh, K.R.S. Sambasiva Rao, N. Senthil Kumar, N.Arul, I. Mahalaxmi, V. Dhivya. Role of heavy metals (Copper (Cu), Arsenic (As), Cadmium (Cd), Iron (Fe) and Lithium (Li)) induced Neurotoxicity. *Chemosphere*.2022. (Impact Factor- 8.943) (SCI).
  11. V. Balachandar, S. Aishwarya, B. Jancy. S. Abhishek, S. Harysh winstler, V. Padmavathi, N. Arul, M. Sujitha Mariappan, R. Sangeetha, A. V. Gopalakrishnan, R. Parthasarathi, I. Mahalaxmi. An anxious relationship between Autism Spectrum Disorder and Gut Microbiota: A tangled chemistry? *Journal of Clinical Neuroscience*.2022. (Impact Factor- 2.116) (SCI).
  12. V. Balachandar , I. Mahalaxmi , R. Neethu, N. Arul, A. V. Gopalakrishnan. New insights into Epigenetics as an Influencer: An associative study between maternal prenatal factors in Autism Spectrum Disorder (ASD). *Neurology Perspectives*. 2022. (Impact Factor- 3.109) (SCI).
  13. V. Balachandar , G. Bharathi , K. Jayaramayya ,A. Venugopal ,I. Mahalaxmi ,A. Narayanasamy , A. Bharathi ,A. V. Gopalakrishnan , N. Senthil Kumar , M. D.

- Subramaniam. Autismspectrum disorder (ASD) – A case-control study to investigate the prenatal, perinatal and neonatal factors in Indian Population. *Brain Disorders*. 2021. (SCI).
14. R B. Manjima, S. Ramya, T. Saranya, K. Kavithaa, S. Harysh Winstler, V. Balachander, M. Paulpandi, N. Arul. Spathulenol attenuates 6-hydroxydopamine induced neurotoxicity in SH-SY5Y neuroblastoma cells. *Gene Reports*. 2021. (Impact Factor- 3.688) (SCI).
  15. S. Ramya, T. Saranya, K. Kavithaa, S. Harysh Winstler, V. Balachander, M. Paulpandi, N. Arul. Fabatin-loaded silica nanoparticle-induced apoptosis via mitochondrial dysfunction: targeting the PI3K/AKT molecular pathway as a therapeutic implication against triple negative breast cancer. *New Journal of Chemistry*. 2021. (Impact Factor- 3.925) (SCI).
  16. Mahalaxmi, K. Jayaramayya, V. Dhivya, S. Mohana Devi, K Renu, V. Padmavathi, N. Arul, A. V. Gopalakrishnan, N. Senthil Kumar, P. Sivaprakash, K.RS Sambasiva Rao, V. Balachandar. Mucormycosis: An opportunistic pathogen during COVID-19. *Environmental Research*. 2021. (Impact Factor- 8.431) (SCI).
  17. K. Kavithaa, M. Paulpandi, S. Ramya, M. Ramesh, V. Balachandar, K. Ramasamy, and N. Arul. Sitoserol-fabricated chitosan nanocomplex induces apoptotic cell death through mitochondrial dysfunction in lung cancer animal model: an enhanced synergetic drug delivery system for lung cancer therapy. *New Journal of Chemistry*. 2021. (Impact Factor- 3.925) (SCI).
  18. M. Vishnupriya, M. Naveenkumar, K. Manjima, NV. Sooryasree, T. Saranya, S. Ramya, S. Harysh Winstler, M. Paulpandi, V. Balachandar, N. Arul. Post-COVID pulmonary fibrosis: therapeutic efficacy using with mesenchymal stem cells—How the lung heals. *European Review for Medical and Pharmacological Sciences*. 2021. (Impact Factor- 3.784) (SCI).
  19. M. Iyer, T. Sushmita, R. Kaviyarasi, Md. Younus, P. Shraddha, S. Bhupender, R. Neethu, K. Saikrishna, H. J. Kwak, V. Balasubramanian, S B. Jang, G. D. Kumar, U. Anand, N. Arul, K. Masako, S. Mohana Devi, N. Senthil Kumar, R. Ayan, VG. Abilash, P. Ramakrishnan, S. G. Cho, V. Balachandar. Environmental Survival of SARS-CoV-2—A solid waste perspective. *Environmental Research*. 2021. (Impact factor: 8.431) (SCI).
  20. B. Rangasamy, A. Anila, M. Ramesh, N. Arul. Responses of metabolic enzymes (GOT, GPT and LDH) in an Indian major carp *Cirrhinus mrigala* exposed to titanium dioxide (TiO<sub>2</sub>) nanorods under short-term exposure. *Ecotoxicol. Environ. Contam.* 2020. (SCI).
  21. Z. J. Sutha, P. A. Anila, S. Umamaheswari, M. Ramesh, N. Arul, R.K. Poopal. Biochemical responses of a freshwater fish *Cirrhinus mrigala* exposed to tris(2-chloroethyl) phosphate (TCEP). *Environmental Science and Pollution Research*. 2020. (Impact Factor- 5.190) (SCI).
  22. S. Mohana Devi, V. Dhivya, M. Iyer, S. Sarathbabu, G. Vivekanandhan, R. Ayan, N. Arul, K. Siva, V.G. Abilash, T. Raviminickam, N. Senthil Kumar, V. Balachandar. Biosurfactants and anti-inflammatory activity: A potential new approach towards COVID-19. *Current opinion in environmental science & health*. 2020. (SCI).
  23. K Kavithaa, M Paulpandi, V Balachandar, M Ramesh, N. Arul. Production and application of polyclonal antibodies against SARS-CoV-2 viral spike protein. Development to rapid, highly sensitive diagnosis kit for early Corona viral detection among the population. *European Review for Medical and Pharmacological Sciences*. 2020. (Impact Factor- 3.784) (SCI).
  24. V. Dhivya, M. Iyer, N. Arul, k. Siva, V. Balachandar. Kynurenine pathway in

- Parkinson's disease—An update. *eNeurologicalSci.* 2020. (SCI).
25. S. Subbiah, M. Ramesh, A. P. Ashokan, N. Arul. Acute and sublethal toxicity of anazole fungicide tebuconazole on ionic regulation and Na<sup>+</sup>/K<sup>+</sup>-ATPase activity in a freshwater fish *Cirrhinus mrigala*. *International Journal of Fisheries and Aquatic Studies.* 2020. (Impact Factor- 0.549) (SCI).
  26. K.W. Dhanya, G. Shyamala, M. Paulpandi, N. Arul, S. Karthik, K. Arjunan, V. Sankar. Development and Characterization of Phytoniosome Nano Vesicle Loaded with Aqueous Leaf Extracts of *Justicia adhatoda* and *Psidium guajava* Against Dengue Virus (DEN-2). *Journal of cluster science.* 2020. (Impact Factor: 3.447) (SCI).
  27. D. Hemalatha, R. Basuvannan, N. Bojan, M. Kannan, N. Arul, M. Ramesh. Transcriptional, biochemical and histological alterations in adult zebrafish (*Danio rerio*) exposed to benzotriazole ultraviolet stabilizer-328. *Science of the Total Environment.* 2020. (Impact Factor- 10.783) (SCI).
  28. V. Anila, G. Harsha, S. Suresh, S. Raja, G. Vivekanandhan, A. Manimekalan, N. Arul, P. Sivaprakash, P. Rahman, V. G. Abilash, S. Zothan, V. Balachandar. Novel Wastewater Surveillance Strategy for Early Detection of COVID – 19 Hotspots. *Current Opinion in Environmental Science & Health.* 2020. (SCI).
  29. V. Balachandar, M. Iyer, S. Mohana Devi, J. Kaavya, N. Senthil Kumar, L. Gracy, N. Arul, p. Janardhana Kumar Reddy, P. Sivaprakash, s. Kanchana, G. Vivekanandhan, S. Goo Cho. Follow-up studies in COVID-19 recovered patients - is it mandatory ?. *Science of the Total Environment.* 2020. (Impact Factor- 10.783) (SCI).
  30. T. Saranya, K. Kavithaa, M. Paulpandi, S. Ramya, S. Preethi, V. Balachander, and N. Arul. Enhanced apoptosis and oncogene regulatory mechanism of troxerutin in triple negative breast cancer cells. *Toxicology Research.* 2020. (Impact Factor- 3.524) (SCI).
  31. M. Paulpandi, K. Kavithaa, A. Asaikkutty, V. Balachandar, N. Ayyadurai, N. Arul. Could host cell receptor alteration prevent SARS-CoV-2 viral entry? – Hype or hope. *European Review for Medical and Pharmacological Sciences.* 2020. (Impact Factor- 3.784) (SCI).
  32. S. Ramya, T. Saranya, K. Kavithaa, S. Preethi, R. Harysh Winster, V. Balachander, M. Paulpandi, N. Arul. pH Dependent Drug Release of Silibinin, a Polyphenol conjugated with Magnetic Nanoparticle against the Human Colon Cancer Cell. *Journal of cluster science* 2020. (Impact Factor: 3.447) (SCI).
  33. V. Balachandar, J. Kaavya, M. Iyer, N. Arul, G. Vivekanandan, G. Bupesh, S. Ganesan, V. Anila, V. Dhivya, G. Harsh, R. Kamarajan, P. Rahman, S. G. Cho, N. Senthil Kumar, S. Mohana Devi. COVID-19: A promising cure for the global panic. *Science of the Total Environment.* 2020. (Impact Factor: 10.783) (SCI).
  34. V. Balachandar, I. Mahalaxmi, J. Kaavya, N. Arul, G. Vivek, S. Ajithkumar, G. Singaravelu, SK Nachimuthu, S. Mohana Devi. COVID-19: Emerging protective measures. *Eur. Rev. Med. Pharmaco.* 2020. (Impact Factor: 3.784) (SCI).
  35. V. Balachandar, M. Iyer, M. Devi Subramaniam, N. Arul, K. Jayaramayya, Z. Siama, B. Giridharan, A. Abdal Dayem, S. G. Cho. Understanding the Role of the Transcription Factor Sp1 in Ovarian Cancer: from Theory to Practice. *International Journal of Molecular Science* 2020. (Impact Factor :6.208) (SCI).
  36. J. Kaavya, I. Mahalaxmi, V. Dhivya, B. Venkatesh, S. M. Devi, S. G. Cho, N. Arul, N. V. Balachandar. Unraveling correlative roles of Dopamine transporter (DAT) and Parkin in Parkinson's disease (PD) - A road to discovery?. *Brain Resarch Bulletin* 2020. (Impact Factor 4.077) (SCI).
  37. C. Nisha, M. Iyer, Z. Siama, N. Arul, V. Balachandar. Purinergic signalling pathway:

- Therapeutic target in ovarian cancer. *Egyptian Journal of Medical Human Genetics* 2020. (Impact Factor: 0.77) (SCI).
38. S. Arpita, A. Rajalakshmi, K. Subash, S. Jayakumar, S. Pradeep Kumar, N. Arul, E. Alex and K. Jayalakshmi. Seasonal variations among dengue vector mosquitoes in rural settings of Thiruvarur District in Tamil Nadu, India. *Journal of Vector Borne Disease* 2019. (Impact Factor: 1.688) (SCI).
  39. B. Nataraj, k. Maharajan, D. Hemalatha, B. Rangasamy, N. Arul, M. Ramesh. Comparative Toxicity Of Uv-Filter Octyl Methoxycinnamate And Its Photoproducts On Zebrafish Development. *Total Environmental Science* 2019. (Impact Factor: 10.783) (SCI).
  40. M. Iyer, S. MohanaDevi, J. Kaavya, N. Arul, V. Balachandar, K. S. Santhy. New insight into NANOG: A novel therapeutic target for ovarian cancer (OC). *European journal of pharmacology* 2019. (Impact Factor: 5.195) (SCI).
  41. M. Gomathi, TP. Ayisha hamna, AJ. Jijo, KM. Saradha Devi, N. Arul, V. Balachandar Recent Advances in Radiotherapy and its Associated Side Effects in Cancer - A Review - *The Journal of Basic and Applied Zoology* 2019.( SCI)
  42. V. Padmavathi, N. Arul, V. Balachandar. Excessive Carbohydrate Consumption and Body Mass Index – The Risk Factors for Type 2 Diabetes Mellitus in Patients with Prader-Willi Syndrome in Tamil Nadu Population - *The Journal of Basic and Applied Zoology* 2018. (SCI).
  43. Qamar I, F. Z. Ahmad, N. Arul. A Time-course Study of Long Term Over-expression of ARR19 in Mice. *Scientific Rep.* 2015. (Impact factor: 5.228) (SCI).
  44. M. Saravanan, N. Arul, H. Jang-Hyun, M. Ramesh. Toxicological Effects of Clofibrac acid and Diclofenac on Plasma Thyroid Hormones of an Indian Major Carp, *Cirrhinus mrigala* During Short and Long-term Exposures. *Environ. Toxicol Pharmacol.* 2014. (Impact Factor: 5.785) (SCI).
  45. N. Arul, CA. Yong-Yeon. Rising Cancer Prevention Target of RSK2 in Human Skin Cancer. *Front. Oncol.* 2013. (Impact factor: 6.244) (SCI).
  46. N. Arul, J. M. Ahn, H. J. Sung, D. H. Kong, K. S. Ha, S. Y. Lee, J. Y. Cho. Fucosylated glycoproteomic Approach to Identify a Complement Component 9 Associated with Squamous Cell Lung Cancer (SQLC). *J. Proteomics.* 2011. (Impact factor: 4.878) (SCI).
  47. K. Chenniappan, M. Kadarkari, N. Arul, Y. Perumal. Larvicidal and Insect Growth Regulator Effect of  $\alpha$ -myrinacetate from *Catharanthus roseus* Linn Against the Malaria Vector *Anopheles stephensi* Liston (Diptera: Culicidae). *J. Entomol. Res.* 2009. (Impact factor: 1.036) (SCI).
  48. D. Jeyabalan, N. Arul, P. Thangmathi. Studies on Effects of *Pelargonium Citrosa* Leaf Extracts on Malarial Vector, *Anopheles stephensi* Liston. *Bioresource Technol.* 2003, (Impact factor: 11.899) (SCI).

## BOOK CHAPTER

1. **What we know about the life-threatening novel human coronavirus. Claude Hughes, Arul Narayanaswamy, Balachandar Vellingiri, Dhivya Venkatesan, Stafford Warren and Michael Waters. *The Coronavirus Pandemic and the Future. READING ROOM, RSC. 2020. 978-1-83916-365-4.***
2. **Big Data in Tribal Healthcare and Biomedical Research, V. Dhivya, V.G.**

Abilash, Narayanasamy Arul, Chhakchhuak Lalchhandama, V. Balachandar, N. Senthil Kumar. Big Data Applications in Industry 4.0. Auerbach Publications. 2022. 9781003175889.

### CONFERENCE/SEMINAR/WORKSHOP/ATTENDED

Papers presented: 12; Participated: 10; Invited talk delivered: 4; Workshops attended: 4

### COMPLETED PROJECTS

S.No.	Project title	Amount sanctioned	Funding Agency	PERIOD
1.	Multifunctional Zinc Nano-bioconjugated Delivery of Betal compound as a novel cancer therapeutic approach	10,00,000/-	UGC- BSR- START UP	19.03.2018 – 18.03.2020
2.	Escalating awareness to Ovarian Cancer - The people who affected	8,00,000/-	RUSA- ENTREPRENEUR PHASE II	01.02.2020- 30.06.2020

### ON- GOING PROJECTS

S.No.	Project title	Amount sanctioned	Funding Agency	PERIOD
1.	Assessment of Epigenetic regulation and Protein modification in Human	33,00,000/-	CSIR	17.07.2020- 17.07.2023

	population influenced by transition metal ions from Industrial Effluents in Tamilnadu			
2.	Gossypetin Loaded Zinc Oxide Nanoparticles Induced Apoptotic Cell Death through Upregulation of GADD45 gene in Multi Drug Resistant Human Breast Cancer Cells and post operative patients: An Improved Drug Delivery system for cancer therapy	13,88,000/-	RUSA. 2..0 - BCTRC	14.12.2020-14.12.2022
3.	Epigenetic regulation and Transcriptional factors in Ovarian Cancer patients – A Population based study in Tamilnadu Population	9,70,000/-	Tamilnadu State Council for Higher Education	30.03.2021-30.03.2023

## COLLABORATORS

### NATIONAL:

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### INTERNATIONAL:

**Prof. Je-Yoel Cho**

**Prof. Subramaniam Malarkannan PhD**



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