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Academic Profile

Postdoctoral Fellowship

Dr. D. S. Kothari Postdoctoral Fellowship
(University Grants Commission, India)
Department of Biochemistry
Periyar University, Salem, Tamil Nadu, India

July 2018-till date

National Postdoctoral Fellowship
(Science and Engineering Research Board, India)
Department of Biochemistry
Periyar University, Salem, Tamil Nadu, India

2016-2018

Doctor of Philosophy, Biotechnology
Molecular Biology and Biotechnology Division,
DRDO-BU Center for Life Sciences,
Bharathiar University, Coimbatore, Tamil Nadu, India

2007-2013

Dissertation title: **“Regulation of mitochondrial gene (*in vitro/in vivo*) expression under hypobaric hypoxic condition: a study relevant to high altitude pulmonary edema”**

Master of Science, Biotechnology
Bharathiar University, Coimbatore, Tamil Nadu, India

2003-2005

Bachelor of Science, Biotechnology
Kongu Nadu Arts and Science College (affiliated to Bharathiar University),
Coimbatore, Tamil Nadu, India

2000-2003

Fellowships

Junior Research Fellowship (2006-2009) and Senior Research Fellowship (2009-2011),
DRDO-BU Center for Life Sciences, Bharathiar University, Coimbatore, Tamil Nadu, India

Academic Distinctions

M.Sc. Biotechnology passed with **University rank 1st** and B.Sc. Biotechnology passed with **University rank 3rd**, Bharathiar University, Coimbatore, Tamil Nadu, India.

Papers Published

1. K. Vennila, L. Chitra, T. Palvannan, Green synthesized selenium nanoparticles using *Spermacoce hispida* as carrier of s-allyl glutathione: To accomplish hepatoprotective and nephroprotective activity against acetaminophen toxicity, **Artificial cells, nanomedicine, and biotechnology (Accepted for publication)** [IF: 3.026]
2. J. Preethi, L. Chitra, I. Ancy, P. Kumaradhas, T. Palvannan, S-allyl cysteine as potent anti-gout drug: Insight into the xanthine oxidase inhibition and anti-inflammatory activity, **Biochimie** 154 (2018) 1-9. [PMID: 30059711; IF: 3.188]
3. S. Penislusshian, L. Chitra, I. Ancy, P. Premkumar, P. Kumaradhas, P. Viswanathamurthi, T. Palvannan, Biological interaction of newly synthesized astaxanthin-s-allyl cysteine biconjugate with *Saccharomyces cerevisiae* and mammalian α -glucosidase: *In vitro* kinetics and *in silico* docking analysis, **International journal of biological macromolecules**, 118 (2018) 252-262. [PMID: 29885400; IF: 3.909]
4. R. Vijayan, L. Chitra, S. Penislusshian, T. Palvannan Exploring bioactive fraction of *Sargassum wightii*: in vitro elucidation of Angiotensin 1-converting enzyme inhibition and antioxidant potential, **International journal of food properties**, 21 (2018) 674-684. [IF: 1.427]
5. K. Vennila, L. Chitra, R. Balagurunathan, T. Palvannan, Comparison of biological activities of selenium and silver nanoparticles attached with bioactive phytoconstituents: green synthesized using *Spermacoce hispida* extract, **Advances in natural sciences: nanoscience and nanotechnology**, 9 (2018) 015005 (10pp)
6. T. Palvannan, L. Chitra, I. Ancy, P. Kumaradhas, N. Selvan, S-allyl-glutathione, a synthetic analogue of glutathione protected liver against carbon tetrachloride toxicity: focus towards anti-oxidative efficiency, **Environmental toxicology and pharmacology**, 58 (2018) 21–28. [PMID: 29278860; IF: 2.776]
7. J. Preethi, K. Vennila, L. Chitra, K. Govindhan, R. Vijayan, S. Penislusshian. P. Sathishkumar, T. Palvannan, Rapid biosynthesis of *Bauhinia variegata* flower extract-mediated silver nanoparticles: an effective antioxidant scavenger and α -amylase inhibitor, **Artificial cells, nanomedicine, and biotechnology**, (2017) 1-7. [PMID: 28885044; IF: 3.026]
8. L. Chitra, T. Palvannan, Asiatic acid prevents the quinolinic acid-induced oxidative stress and cognitive impairment, **Metabolic brain disease**, (2017) 1-9. [PMID: 29086235; IF: 2.441]
9. J. Preethi, L. Chitra, K. Vennila, S. Penislusshian, R. Vijayan, V. Sudha, P. Sathishkumar, K. Murugesan, T. Palvannan, Plant extract as environmental-friendly green catalyst for the reduction of hexavalent chromium in tannery effluent, **Environmental technology**, (2017) 1-21. [PMID: 28488473; IF: 1.666]
10. P. Ratha, L. Chitra, I. Ancy, P. Kumaradhas, T. Palvannan, New amino acid-Schiff base derived from s-allyl cysteine and methionine alleviates carbon tetrachloride-induced liver dysfunction, **Biochimie**, 138 (2017) 70-81. [PMID: 28454919; IF: 3.188]
11. L. Chitra, R. Boopathy, Altered mitochondrial biogenesis and its fusion gene expression is involved in the high-altitude adaptation of rat lung, **Respiratory physiology and neurobiology**, 192 (2014) 74-84. [PMID: 24361501; IF: 1.792]

12. **L. Chitra**, R. Boopathy, Adaptability to hypobaric hypoxia is facilitated through mitochondrial bioenergetics: an in vivo study, **British journal of pharmacology**, 169 (2013) 1035-1047. [PMID: 23517027; IF: 6.81]
13. **L. Chitra**, C.R. Kumar, H.M. Basha, S. Ponne, R. Boopathy, Interaction of metal chelators with different molecular forms of acetylcholinesterase and its significance in Alzheimer's disease treatment, **Proteins: structure, function, and bioinformatics**, 81 (2013) 1179-1191. [PMID: 23408593; IF: 2.274]
14. R.V. Rajesh, **L. Chitra**, P.G. Layer, R. Boopathy, The aryl acylamidase activity is much more sensitive to Alzheimer drugs than the esterase activity of acetylcholinesterase in chicken embryonic brain, **Biochimie**, 91 (2009) 1087-1094. [PMID: 19607873; IF: 3.188]

Abstracts in conferences

1. T. Palvannan, **L. Chitra** and N. Selvan. Anticancer effect of s-allyl- glutathione against hepatocellular carcinoma cell line HepG2. International Conference on Innovative Food and Nutrition Technologies for Public Health Care. 4th and 5th January, 2018. Periyar University, Salem, Tamil Nadu, India.
2. R. Vijayan, **L. Chitra** and T. Palvannan. Inhibitory activity of fucoxanthin rich fraction isolated from *Sargassum wightii* Greville against α -amylase and β -glucosidase. International Conference on Innovative Food and Nutrition Technologies for Public Health Care. 4th and 5th January, 2018. Periyar University, Salem, Tamil Nadu, India.
3. **L. Chitra**, K. Vennila, P. Kowsalya, T. Palvannan. Beta carotene conjugated selenium nanoparticles: Synthesis, characterization and elucidation of its biological activity. International Conference on Innovative Food and Nutrition Technologies for Public Health Care. 4th and 5th January, 2018. Periyar University, Salem, Tamil Nadu, India.
4. S. Penislusshiyar, **L. Chitra**, I. Ancy, P. Kumaradhas, T. Palvannan. Xanthophyll and allyl sulfur amino acid conjugate as multi-target- directed ligand: Understanding its potential as therapeutic agent against type II diabetes. International Conference on Innovative Food and Nutrition Technologies for Public Health Care. 4th and 5th January, 2018. Periyar University, Salem, Tamil Nadu, India.
5. **L. Chitra** and T. Palvannan. Intertwine between mitochondrial biogenesis, mitochondrial dynamics and mitophagy in the diabetes associated cognitive decline: identifying novel targets with therapeutic potential. All India young scientist convention, 18th to 22nd December, 2017. Periyar University, Salem, Tamil Nadu, India.
6. R. Vijayan, **L. Chitra** and T. Palvannan. Active compound fraction from brown algae against angiotensin 1 converting enzyme activity. 14th to 16th December, 2017. Bharathiar University, Coimbatore, Tamil Nadu, India.
7. K. Vennila, **L. Chitra** and T. Palvannan. Green synthesized selenium nanoparticles using *Spermacoce hispida* as carrier of S-allyl glutathione: To accomplish hepatoprotective activity against paracetamol toxicity. International conference on bioscience and bioinformatics. 14th to 16th December, 2017. Bharathiar University, Coimbatore, Tamil Nadu, India.
8. J. Preethi, **L. Chitra** and T. Palvannan. Anti-inflammatory effect of s-allyl cysteine against monosodium urate crystal-induced gout in rat. International conference on bioscience and

- bioinformatics. 14th to 16th December, 2017. Bharathiar University, Coimbatore, Tamil Nadu, India.
9. S. Penislusshiyar, **L. Chitra**, I. Ancy, P. Kumaradhas, T. Palvannan. Conjugating astaxanthin with amino acid to enhance its biological activity. International conference on bioscience and bioinformatics. 14th to 16th December, 2017. Bharathiar University, Coimbatore, Tamil Nadu, India.
 10. S. Penislusshiyar, **L. Chitra** and T. Palvannan. Dual functional role of astaxanthin biconjugated with s-allyl cysteine as antioxidant and alpha-glucosidase inhibitor: Synthesis, characterization and biological activity elucidation. 58th Annual Conference of. Association of Microbiologist of India (AMI). 16th to 19th November, 2017 Babasaheb. Bhimrao Ambedkar University (BBAU), Lucknow, UP, India
 11. T. Palvannan T, **L. Chitra** and R. Vijayan. Synthesis and characterization of S-Allyl Gluthathione: Protection against hepatotoxicin-induced oxidative stress in rat liver. National Conference on Science and technology on Science and technology for National development, health, environment and Agriculture held on 5-7 Oct, 2016, Jain University, Bangalore. (poster)
 12. J. Preethi, **L. Chitra** and T. Palvannan. *In vitro* and *in silico* analysis of the effect of S-allyl cysteine on xanthine oxidase activity. National Conference on Science and technology on Science and technology for National development, health, environment and Agriculture held on 5-7 Oct, 2016, Jain University, Bangalore. (poster)
 13. **L. Chitra**, N. Srilakshmi Prabha, S. Arun Babu, R. Boopathy, Effect of asiatic acid on hippocampal Cell line: a novel inhibitor of acetylcholinesterase from *Centella asiatica*, International conference on Alzheimer's Disease (ICAD), Alzheimer's association, Austria, Vienna. 11th to 16th July, 2009.
 14. **L. Chitra** and R. Boopathy, Significance of aryl acylamidase associated acetylcholinesterase sensitivity to Alzheimer drugs in developing chick embryonic brain, 77th Annual Meeting, School of Biological chemist, Indian Institute of Technology Madras (IITM), Chennai. 18th to 20th December, 2008.
 15. N. Srilakshmi Prabha, V. Lakshmi, **L. Chitra** and R. Boopathy, Dual role of acetylcholinesterase in hypoxia associated ailment, First congress of Asia-Pacific Society for Mountain Medicine (APSM), DIPAS, New Delhi, India. 28th to 30th November, 2008.