

DR. V. Gayathri, M.Sc, PhD, FAS (Aw)
Test facility Management / Head,
Centre for Toxicology and Developmental Research
GLP certified Facility),
Sri Ramachandra Institute of Higher
Education and Research, Porur, Chennai-116.
TAMILNADU STATE,
INDIA

BACKGROUND / Expertise

- ✓ Biochemical and behavioral pharmacology
- ✓ Metabolic disorder - Obesity and diabetes
- ✓ Phytotherapy research
- ✓ Toxicity studies in rodents and non-rodents..

EDUCATIONAL QUALIFICATION:

Degree	Year	Area of Specialisation	Institution/ University
Ph.D	2006-2012	Biotechnology	Mother Teresa Womens University, Kodaikanal
M.Sc	2003- 2005	Biochemistry	Bharathi Womens College, Madras University, Chennai
B. Sc	2000 – 2003	Biochemistry	Bharathi Womens College, Madras University, Chennai

EXPERIENCE

- ✓ Served as a Quality Assurance Manager cum Research Scientist at GLP certified Facility, Centre for Toxicology and Developmental Research, Sri Ramachandra Institute of Higher Education and research (SRIHER) (DU), Chennai - 600 116 since 1st June 2014 to 31.05.2021.
- ✓ Served as a **Senior Research Fellow** in NIS (AYUSH funded project) cum Clinical Chemist at GLP certified Facility **Centre for Toxicology and Developmental Research**, Sri Ramachandra University, Chennai - 600 116 from 20th July 2011 to May 2014.
- ✓ Served as a Research fellow in **Herbal and Indian Medicine Research Laboratory**, Department of Biochemistry, Sri Ramachandra University, Chennai - 600 116 from Oct 2005 – 19th July 2011.

1. Served as Project Assistant for 1 years and promoted as JRF for 2 year in DST Govt. funded project entitled “**Scientific evaluation of safety and efficacy profile of a Ayurvedic Herbal formulation (R05) in the management of Diabetes Mellitus**”, from Oct’ 05-March 2008. Industry – Institutional Collaboration Project
2. Served as JRF for 2 years and promoted as Senior research fellow (1 year) in a AYUSH (Govt. funded EMR scheme) project entitled “**Pre-clinical studies of a polyherbal and a herbomineral formulation in the management of Urolithiasis – A comparative study**”, from Apr 2008 – 19th July 2011.

RESEARCH ARTICLES PUBLISHED:

▪ **Ph. D Research**

- ❖ **Veeraraghavan Gayathri**, Subhash Ananthi, Hannah R Vasanthi. Anti - hyperlipidemic Potential of Polyphenol and Glycosides Rich *Nerium oleander* Flower against Triton WR 1339 induced Hyperlipidemia in Experimental Sprague Dawley Rats. *Journal of Chemistry* – **Accepted. Volume 2013**, Article ID 825290, 8 pages. <http://dx.doi.org/10.1155/2013/825290>. IF- 0.519
- ❖ **Veeraraghavan Gayathri**, Subhash Ananthi, Royapuram Parthasarathy Parameswari, Hannah R Vasanthi. Free Radical Scavenging Potential and Reducing Capacity of Flowers of *Nerium oleander* Linn. *Journal of Herbs, Spices & Medicinal Plants* **2012; 18:77–92.**
- ❖ **V. Gayathri**, S.Ananthi, C.Chandronitha, G.Ramakrishnan, R.Lakshmi Sundaram and A.Hannah R Vasanthi. “Cardioprotective effect of *Nerium oleander* flower against Isoproterenol-Induced Myocardial Oxidative Stress in Experimental Rats”. *Journal of Cardiovascular Pharmacology and Therapeutics* 2011; 16 (1) 96-104. DOI- 10.1177/1074248410381759. **IF-1.872**
- ❖ **Veeraraghavan Gayathri**, Subhash Ananthi, Chandranayagam Chandronitha, M.K.Sangeetha, Hannah R Vasanthi. Hypolipidemic potential of flowers of *Nerium oleander* in high fat diet fed Sprague Dawley rats. *Natural Product Research* 2011; 25 :(11) :1110-1114. DOI: 10.1080/14786419.2010.54188. **IF-0.96**

▪ **Other Research work**

- Camellia Roy and V. Gayathri. Undesirable effects of drugs prescribed while pregnancy and their prevention. ISCCR sponsored national seminar health care system and health care delivery in India; Challenges and Opportunities - Conference Proceedings- Sep 2021; 43-52.

- Ananthi S, **Gayathri V**, Malarvizhi R, Bhardwaj M, Vasanthi HR. (2017) Anti-arthritis potential of marine macroalgae *Turbinaria ornata* in Complete Freund's Adjuvant induced rats. Experimental and Toxicologic pathology 69 (8):672-680. DOI: 10.1016/j.etp.2017.06.006. (I.F- 1.975)
- Hannah R. Vasanthi, V. Muthulakshmi, **V. Gayathri**, R. Manikandan, S. Ananthi, Sarah Kuruvilla (2017). Antiuro lithiatic Effect of *Sirupeelai Samoola Kudineer* – A Polyherbal Siddha Decoction on Ethylene Glycol Induced Renal Calculus in Experimental Rats. Pharmacogn. Mag. 13(50) S273-S279.(**I.F- 1.28**)
- Thiyagarajan L.K., **Gayathri V.**, Sugumar M., Ranju V., Sathiya S., Ramakrishnan G., Babu C.S.. Acute and 28-day repeated oral toxicological evaluation of Kuruthi azhal chooranam a polyherbal Siddha preparation in rodents. The journal of Ethnobiology and Traditional Medicine. Photon 2017, 128, 1281-1290
- Ananthi Subash, **Gayathri Veeraraghavan**, Veeresh Kumar Salib, Meenakshi Bhardwaj, Hannah R. Vasanthi. Attenuation of inflammation by marine algae *Turbinaria ornata* in cotton pellet induced granuloma mediated by fucoidan like sulphated polysaccharide. Carbohydrate Polymers 151 (2016) 1261–1268. <http://dx.doi.org/10.1016/j.carbpol.2016.06.077>
- Ramakrishnan ganapathy, **Gayathri veeraraghavan**, Girish Ramesh, Gayathri Karanam, Sivaraman Gurusamy and Saravana Babu Chidambaram. Thraatchathi chooranam, a polyherbal siddha formulation protects against isoproterenol induced biochemical alterations in rats. Int J Pharm Bio Sci **2016 July** ; 7(3): (P) 128 - 134
- Vijayan Ranju, Sekar Sathiya2, Ramakrishnan Ganapathy, Gayathri Veeraraghavan and Saravana Babu Chidambaram. 3-Aminobenzamide, A Poly (Adp-Ribose) Polymerase Inhibitor, Restores Bioenergetics But Fails To Alleviate Excitotoxicity And Motor Functions In 3- Nitropropionic Acid Intoxicated Mice. International Journal of Pharmacy and Pharmaceutical Sciences. ISSN- 0975-1491 Vol 7, Issue 8, 2015
- **Veeraraghavan, Gayathiri**, Subhash, Ananthi; Chidambaram, Saravana Babu; Venkatesh, Jayakodanda Ramasamy; Parthasarathy, Parameswari Royapuram; Murugan, Dinesh; Murthy, Janani; Telapolu, Srivani; Duraipandian, Chamundeeswari. Scientific validation of Siddha formulation Sirupeelai Samoola Kudineer in the treatment of renal calculi in zinc implantation model. IJTK Vol 14 2015, 650-657
- G. Ramakrishnan, **V. Gayathri**, S. Sathiya, R. P. Parameswari, C. Saravana Babu. Physicochemical and Phytochemical Standardisation of Thraatchathi Chooranam - A Polyherbal Siddha Formulation. J. Pharm. Sci. & Res. Vol. 7(6), 2015, 305-313.
- Kalaivani P, Ganesh M, Sathiya S, Ranju V, **Gayathiri V**, Saravana Babu C. Alteration in bioenergetic regulators, SirT1 and Parp1 expression precedes oxidative stress in rats subjected to transient cerebral focal ischemia: molecular and istopathologic evidences. J Stroke Cerebrovasc Dis. 2014 Nov-Dec; 23(10):2753-66. IF:1.99; doi: 10.1016/j. J stroke cerebro vasdis.2014.06.026. Epub 2014 Oct 14.

- Ali, Naushad; Thanga Thirupathi, A.; Kesavanarayanan, K. S.; Sumathy, H.; Gayathri, V. Estimation Of Andrographolide In Hydroalcoholic Extracts Of Andrographis Paniculata And Nilavembu Kudineer Churnam By HPTLC Fingerprinting Method. *International Journal of Pharmacy & Pharmaceutical Sciences*; Jul 2013, Vol. 5 Issue 3, p340 -348
- Periyathambi Kalaivani, Ramesh babu Saranya, Ganapathy Ramakrishnan, Vijayan Ranju, Sekar Sathiya, **Veeraraghavan Gayathri**, Lakshmi Kantham Thiyagarajan, Jayakothanda Ramaswamy Venkatesh, Chidambaram Saravana Babu and Sadagopan Thanikachalam. *Cuminum cyminum*, a dietary spice, attenuates hypertension via endothelial nitric oxide synthase and NO pathway in renovascular hypertensive rats. *Clinical and Experimental Hypertension* Volume 35, 2013, Issue 7, Pages 534-542. doi: 10.3109/10641963.2013.764887.
- Chandranayagam Chandronitha, **Veeraraghavan Gayathri**, Subash Ananthi, Hannah Rachel Vasanthi. Restoration of arsenite induced hepato-toxicity by tannin rich crude fraction of *Theobroma cacao* in Sprague Dawley rats. *Food Research International* 50 (2013) 46–54. <http://dx.doi.org/10.1016/j.foodres.2012.09.021>. IF-3.549.
- Raman Lakshmi Sundaram, Ganapathy Ramakrishnan, Periyathambi Kalaivani, **Veeraraghavan Gayathri**, Subash Ananthi, S. Saranya, Hannah R. Vasanthi. Effectiveness of *Cassia occidentalis* on pentylenetetrazole-induced Oxidative stress and kindling in rats. *Asian Pacific Journal of Tropical Biomedicine* **2012**; **1-6**. IF – 0.312
- **V. Gayathri**, V. Muthulakshmi, C.Chandronitha, G. Ramakrishnan, M.Vasanthkumar, S. Ananthi, Sarah Kuruvilla, Hannah R Vasanthi. Toxicological evaluation of an antilithiatic polyherbal siddha formulation – Sirupeellai Samoola Kudineer in experimental rats- *Human and Experimental Toxicology* 2011; 30(8) 952–964 DOI: 10.1177/0960327110384522. **IF-1.42**
- Subhash Ananthi, **Veeraraghavan Gayathri**, Chandranayagam Chandronitha, R. Lakshmi Sundaram, Hannah R Vasanthi. Free radical Scavenging and Antiinflammatory potential of a marine brown alga *Turbinaria ornata* (TURNER) J. Agardh. *Indian Journal of Geo-Marine sciences* 2011; 40 (5): 664-670. **IF -0.31**.
- M. K. Sangeetha, H. Balaji Raghavender, **V. Gayathri**, Hannah R Vasanthi. *Tinospora cordifolia* attenuates oxidative stress and distorted carbohydrate metabolism in experimentally induced type 2 diabetes in rats. *Journal of Natural medicine* 2011; [65 \(3-4\)](#): 544-550. DOI: 10.1007/s11418-011-0538-6. **IF-1.469**.
- Vallinayagam Muthulakshmi, **Veeraraghavan Gayathri**, Subhash Ananthi, Raman Lakshmi Sundaram, Royapuram Parthasarathy Parameswari, Johnson Thanka & Hannah R Vasanthi. Safety and bioactive potential of a traditional polyherbal formulation “Sirupeelai samoola Kudineer” *Journal of Pharmacy Research* 2010, 3(9) 2211-2214. **IF-1.097**
- Subhash Ananthi, **Veeraraghavan Gayathri**, Chandranayagam Chandronitha, M.K. Sangeetha, Hannah R Vasanthi. Antioxidant and Anti inflammatory property of *Turbinaria ornata*. *Sea weed Research Utilisation* 2010; 32 (Vol 1 and 2): 37-46.

- Subash Ananthi, Hanumantha rao Balaji raghavendran, Adoor Gopalan Sunil, **Veeraraghavan Gayathri**, Ganapathy Ramakrishnan, Hannah R Vasanthi. *In vitro* antioxidant and *In vivo* anti-inflammatory potential of crude polysaccharide from *Turbinaria ornata* (Brown Alga) – *Food and Chemical Toxicology* 2010, 48 (1) 187-192. **IF-2.73**
- R. P. Parameswari, M. Vasanthkumar, **V. Gayathri**, V. M. Manikandamathavan, G. Ramakrishnan, M. K. Sangeetha, V. Vijayakumar, H. Balaji Raghavendran D. Chamundeeswari and Hannah R. Vasanthi. Prophylactic Role of a Herbomineral Drug Thamira Parpam” Against Cysteamine-Induced Oxidative Stress in Liver and Duodenum of Rats. *Biological Trace Element Research* 2010, 138: 212 225. DOI 10.1007/s12011-009-8602-8. **IF-1.012**
- M Vasanthkumar, RP Parameswari, V Vijaya Kumar, MK Sangeetha, **V Gayathri**, H Balaji Raghavendran, D Chamundeeswari and Hannah R Vasanthi. Anti-ulcer role of herbomineral siddha drug – Thamira parpam on experimentally induced gastric mucosal damage in rats. *Human and Experimental Toxicology* 2010, 29(3) 161–173. **IF-1.42**
- C. Chandronitha, S. Ananthi, G. Ramakrishnan, R. Lakshmisundaram, **V. Gayathri** and Hannah R Vasanthi. Protective role of tannin-rich fraction of *Camellia sinensis* in tissue arsenic burden in Sprague Dawley rats. *Human and Experimental Toxicology* 2010, 29(9) 705–719. **IF-1.42**
- Hannah R vasanthi, Subhendu mukherjee, Istwan Lekli, Diptarka Ray, **Gayathri Veeraraghavan** and Dipak K. Das. Potential Role of *Borreria hispida* in Ameliorating Cardiovascular Risk Factors. *Journal of Cardiovascular Pharmacology* 2009, 53:499-506. **IF-3.02**

RESEARCH experience:

- ✓ Has more than 15 years of preclinical research experience with emphasis on toxicity and efficacy testing and published nearly 30 research papers in national and international journals. Expertise in biochemical and behavioral pharmacology
- ✓ Has contributed greatly for the OECD GLP certification of current working facility, CEFTE in the year 2014. Established and validated many preclinical toxicity studies as per various regulatory test guidelines (OECD, CDSCO, EPA, ICH, ISO, etc) for product promotion since 2011. Since 2014 ensuring the safety profile of various drugs viz, pharmaceuticals, herbal formulation, medical devices, etc., as QA personnel in terms of OECD principles of GLP for Government bodies like INMAS, AYUSH, NIS, CCRS.
- ✓ Contributed as collaborator for the DBT funded project entitled “Regulation of SIRT1 and PARP1 and downstream signalling pathways by inotropic glutamate receptor/transporters and bioenergetics state modulators in rat cerebral focal ischemic model: Reliable targets for therapeutic consideration”?, RGYI scheme in the year 2012- 2014 and published papers.
- ✓ As a team, apart from toxicity, established few chemical and surgical models using small animals at CEFTE like MCAO (focal cerebral ischemia), implantation in bladder, 2K/1C hypertension and AAB Hypertension, etc.

Established various exploratory models for metabolic disorders (Diabetes mellitus, cerebral stroke, CVD) including Neuro degenerative models mainly Parkinson's (Acute and Chronic), Huntingtons, Middle cerebral Artery Occlusion, PVL model etc. using rodents.

STUDENTS GUIDED FOR RESEARCH :

- ✓ **Ongoing - 3 PhD students as Guide; 2 PhD students as Co Guide**
- ✓ **Completed – 2 MSc Students**

TRAINING - PAPER/ SYMPOSIUM/SEMINARS ATTENDED **NATIONAL LEVEL**

- ❖ Attended Seminar on “**Recent Trends in Biotechnology**”. Saveetha University, Chennai. September 28, 2007.
- ❖ Presented a paper entitled “**Peritoneal Mast Cell Stabilisation and Brine Shrimp Toxicity of Nerium Oleander Linn**”. Gayathri V, Ananthi S, Kesavanarayanan KS, Hannah R Vasanthi, Saravana Babu C in the **5th National Conference on Siddha Medicine for All Ages**. Loyola College, Chennai. December 8-9.2007.
- ❖ V.Muthulakshmi, **V.Gayathri**, R.Lakshmisundaram, G.Ramakrishnan, V.Vijayakumar, C.Saravanababu & Hannah R. Vasanthi. Presented a paper on “**Safety and Bioactive potentials of a Traditional Polyherbal Formulation Sirupeelai Samoola Kudineer**” at **International Conference on advances in Free radical Research**, Lucknow 19th to 21st march 2009.
- ❖ Presented a paper titled “**Standardization of an antiurolithiatic drug**” V. Muthulakshmi, **V.Gayathri**, R. Lakshmi Sundaram, M.Vasanth Kumar and Hannah R. Vasanthi at Manomaniam Sundaranar University, Tirunelveli, December 23, 2009.
- ❖ Presented a paper titled “**Cardio-protective effect of Lemon grass (Cymbopogon citratus DC.stapf)**” **V.Gayathri**, K. Gayathri, A. Hannah Rachel Vasanthi, G. Victor Rajamanickam at Sri Ramachandra University, Herbotech 2010, A National conference on “**Recent advances in Herbal drug processing, development and research**” on 21st January 2010.
- ❖ Presented a paper titled “**Role of Sirupeelai Samoola Kudineer as an Anti-lithiatic Agent - A Scientific Approach of Validation**” Hannah R Vasanthi, **V.Gayathri**, S. Ananthi at Sai Siddha Herbal Expo II and National conference on Advanced Research in Siddha Medicine and herbal Plants “Herbocure”, organized by Sri Sai Ram Siddha medical college & Research Centre, Chennai , 28th, 29th & 30th April 2010.
- ❖ Attended the **SRU – Pfizer workshop** on Clinical Research organized by Central research Facility at Sri Ramachandra University on 8th - 9th May 2010.
- ❖ Attended and Participated as Resource person in the National Workshop on “**Analytical techniques in the Standardisation of Siddha drugs – ATS 2010**” organized by Herbal and Indian Medicine Research Laboratory at Sri Ramachandra University on 10- 12th June 2010.

- ❖ Participated as Resource person in the National Seminar on “**Recent Advances in Herbal drug Technology**” at Sri Ramachandra University on 1- 3rd July 2010.
- ❖ Participated as Resource person in the Workshop on “**Chromatographic Techniques and their Applications**” at Sri Ramachandra University on 11-14th Oct 2010.
- ❖ Attended and participated as a Delegate in an “**International conference on Radiation biology**” Nanotechnology, Imaging and Stem cell research in Radiation oncology (ISRB) at Sri Ramachandra University on 15- 17th Nov 2010.
- ❖ Attended and participated as a Delegate in an “**Indo American Pharmaceutical Regulatory symposium**” organized by the Department of Pharmaceutics, Faculty of Pharmacy at Sri Ramachandra University on 21- 23rd Nov 2010.
- ❖ Attended and participated as a Delegate in an “**National Workshop on Research Publication Applied Multivariate Statistical Analysis Using AMOS and SPSS**” organized by the, Indian Society for Education and Environment (Isee), on 3-5th June 2011.
- ❖ Attended and participated as a Delegate in “**Possibilities of Research And Innovacion cooperation with Europe**, Awareness raising and information compaign in India” organized by the European union, at Ball room, Taj coromandel, Chennai on 20th June 2011.
- ❖ Attended and participated as a Delegate in one day workshop on “**Alternatives to use of Animals in Medical Education**”, organized by the Sri Ramachandra University, Chennai and MGDC, Trichy on 28th April 2012.
- ❖ Attended more than 10 e webinars and seminar series in the year 2020

THESIS WORK DONE DURING PHD

- **Title - Biochemical and Pharmacological Studies of *Nerium Oleander* as cardio protective agent**
 - **Objective of my Research**
 - Standardization of various fractions of *N.oleander* flower using analytical techniques
 - Bioactivity of various fractions of *N.oleander* flower using *in vitro* models (antioxidant activity, α glucosidase inhibitory activity and anti-inflammatory activity).
 - Toxicological profile of the standardized extract from *Nerium oleander* flowers using *in vitro* model and *in vivo* animal model.
 - Bioactivity of effective fraction of *N.oleander* using *in vivo* models using experimental rats
 - ✓ Cardioprotective activity – Isoproterenol induced Myocardial ischemia

- ✓ Anti hyperlipidemic activity –
 - High fat diet induced Dyslipidemia
 - Acute hyperlipidemia – Tyloxapol Induction

PROJECTS Handled

ONGOING RESEARCH PROJECTS			
S. No.	Title of Project	Source of Funds	Duration (from – to --)
1	Toxicity and in-vivo efficacy studies of Nilavembu kudineer - PI	CCRS, Chennai	Jun 2020- Jun 2022
2.	Pre-clinical safety and efficacy of Nuna Kaduku & Nuna Thailam in Venpadai (Vitiligo) - Co PI	CCRS, Chennai	Sep2016- Sep 2022
RESEARCH PROJECTS COMPLETED			
S. No.	Title of Project	Source of Funds	Duration (from – to - -)
1	Does cocoa beans (Chocolate beans) can regulate MPP+ induced glial activation and downstream signaling in in vitro model” for the year	GATE Project, SRIHER	2014-2015

AWARDS RECEIVED

- ✓ **Principal Investigator** – Received a young faculty grant for the project entitled “**Does cocoa beans (Chocolate beans) can regulate MPP+ induced glial activation and downstream signaling in *in vitro* model**” for the year 2014-2015 from GATE, Sri Ramachandra University, Chennai.
- ✓ Received Merit awards and certificates for the published papers from Sri Ramachandra Medical College and Research Institute (DU), Chennai during the year 2012, 2014 and 2017.
- ✓ Contributed as collaborator for the DBT funded project entitled “Regulation of SIRT1 and PARP1 and downstream signalling pathways by inotropic glutamate receptor/transporters and bioenergetics state modulators in rat cerebral focal ischemic model: Reliable targets for therapeutic consideration”? RGYI scheme in the year 2012- 2014 and published papers.
- ✓ Contributed as coordinator for the NIS CCRS funded project entitled “Preclinical investigation of KAC” in the year 2017- 2020 and published papers.

INNOVATIVE ACTIVITIES/INTERVENTIONS IN THE AREA OF EXPERTISE

- ✓ Has more than 15 years of preclinical research experience with emphasis on toxicity and efficacy testing and published more than 25 research papers in national and international journals
- ✓ Contributed greatly for the OECD GLP certification of the current working Preclinical lab, CEFTE in the year 2014. It is first GLP certified Preclinical Lab in Medical University of South east Asia.
- ✓ Recently Faced Recertification inspection of NGCMA, Govt. of India, Inspection as Quality Assurance Manager
- ✓ Faced five cycles of NGCMA, Govt. of India, Inspection as Quality assurance personnel and clinical chemist and contributed immensely to acquire "Good Laboratory Practice" certification for current Institution.
- ✓ Established and validated more than 150 preclinical toxicity studies as per various regulatory test guidelines (OECD, CDSCO, EPA, ICH, ISO, etc) for product promotion since 2011.
- ✓ Since 2014 ensuring the safety profile of various drugs viz, pharmaceuticals, herbal formulation, medical devices, etc., as QA auditor in terms of OECD principles of GLP for sponsored studies and Government bodies like INMAS, AYUSH, NIS, CCRS.
- ✓ Established and validated ELISA based bioanalytical studies as per regulatory test guidelines (FDA, EMEA, EPA, ISO, etc) for biosimilar compound promotion since 2015.

MEMBERSHIP

Membership of Professional Societies

- ❖ Fellow of Animal Welfare Sciences
- ❖ Life Member of the Indian Association of Biomedical Sciences (IABMS), India
- ❖ Member of CITI India program, Sri Ramachandra University, India
 - Completed 10-12 modules of Good Clinical Practice
 - Received the Curriculum Completion Report with certificates

Member of the Institutional Committees,

- Served as a Biological Scientist Internal member of IAEC, SRIHER (DU) from 2015 -2021
- Serving as a Biological Scientist and Animal House Incharge – Internal member of IAEC, SRIHER (DU) from 2021 onwards