

Personal Details	Assoc. Prof. Dr. Arunachalam Muthuraman
Academic Qualifications	Ph.D. (Pharmaceutical Sciences - Punjabi University, Patiala, India). M. Pharm (Pharmacology - Punjabi University, Patiala, India). B. Pharm (The Tamilnadu Dr. M.G.R. Medical University, Chennai, India).
Administrative Duties	<ol style="list-style-type: none"> <li>1. Faculty of Pharmacy (FOP) - Batch coordinator for Batch 2017.</li> <li>2. FOP - QADI Committee, Secretary.</li> <li>3. FOP - QS Contact/Webometric, Coordinator.</li> <li>4. FOP – Animal Ethics Committee (AEC), Head.</li> <li>5. AIMST University (AUAEC), Member.</li> <li>6. Internal Audit Team Member for Faculty Assets Assessment.</li> <li>7. Audit Team Member for Food Safety Assessment, Member.</li> <li>8. University biosafety committee, Secretary.</li> </ol>
Publications (last 5 years)	<p><b><u>Research Articles</u></b></p> <ol style="list-style-type: none"> <li>1. Rishitha N, <b>Muthuraman A</b>. Ameliorative potential of thymoquinone in four vessel occlusion induced vascular dementia in rats. <i>Alzheimers &amp; Dementia</i>. (Basic Science and Pathogenesis – Part 2) 2023; 19 Suppl 13: e071053. (<b>IF: 16.655; Scopus and WOS indexed</b>)</li> <li>2. <b>Muthuraman A</b>, Sayem ASM, Meenakshisundaram S, Ali N, Ahmad SF, AlAsmari AF, Nishat S, Lim KG, Paramaswaran Y. Preventive Action of Beta-carotene Against the Indoxyl Sul-fate-Induced Renal Dysfunction in Male Adult Zebrafish via Regulations of Mitochondrial Inflammatory and <math>\beta</math>-Carotene Oxygenase-2 Actions. <i>Biomedicines</i> 2023; 11 (10); 2654. (<b>IF: 4.7; Indexed in WOS and Scopus</b>).</li> <li>3. Paramakrishnan N, Lim KG, Paramaswaran Y, Ali N, Waseem M, Shazly GA, Jordan YAB, <b>Muthuraman A</b>. Astaxanthin: A Marine Drug that Ameliorates Cerebrovascular Damage Associated Alzheimer's Disease in a Zebrafish Model via the Inhibition of Matrix Metalloprotease-13. <i>Marine Drugs</i> 2023; 21 (8); 433. (<b>IF: 5.4; Indexed in WOS and Scopus</b>).</li> <li>4. Shaikh SA, <b>Muthuraman A</b>. Tocotrienol rich fraction ameliorates the aluminium chloride induced neurovascular dysfunction associated vascular de-mentia in rats. <i>Pharmaceuticals</i>, 2023; 16(6); 828. (<b>IF: 5.215; Indexed in WOS and Scopus</b>).</li> <li>5. <b>Muthuraman A</b>, Ramesh M, Mustaffa F, Nadeem A, Nishat S, Paramakrishnan N, Lim KG. <i>In silico</i> and <i>in vitro</i> methods in the characterization of beta-carotene as pharmaceutical material via acetylcholine esterase inhibitory actions. <i>Molecules</i>. 2023; 28(11):4358. (<b>IF: 4.927; Indexed in WOS and Scopus</b>).</li> <li>6. Paramaswaran Y, Subramanian A, Paramakrishnan N, Ramesh M, <b>Muthuraman A</b>. Therapeutic Investigation of palm oil mill effluent-derived beta-carotene in streptozotocin-induced diabetic</li> </ol>

retinopathy via the regulation of blood–retina barrier functions. *Pharmaceuticals*, 2023; 16(5); 647. (IF: **5.215**; Indexed in **WOS** and **Scopus**).

7. Giap LK, Varatharajan R, **Muthuraman A**. Therapeutic investigations of palm oil induced beta-carotene in diabetic vascular dementia in rat. *Research Journal of Pharmacy and Technology*, 2023, 16(2); 566-572. (Indexed in **Scopus**)
8. Kaur K, Kaur N, **Muthuraman A**, Kumar S. The neuroprotective and antinociceptive effect of antidiabetic 3-(2-chlorophenyl)-4-imino-5-phenyl-2-(2-methoxyphenyl)-2H,3H,5H-[1,2,5]thiadiazolidin-1-oxide(CIPMTO) in Streptozotocin-induced diabetic neuropathic pain in rats. *Research Journal of Pharmacy and Technology*, 2022, 15(12); 5405-5414 (Indexed in **Scopus**)
9. Paramakrishnan N, Chavan L, Lim KG, Paramaswaran Y, Muthuraman A. Reversal of neuralgia effect of beta carotene in streptozotocin-associated diabetic neuropathic pain in female zebrafish via matrix metalloproteinase-13 inhibition. *Pharmaceuticals*, 2023; 16(2), 157. (IF: **5.215**; Indexed in **WOS** and **Scopus**).
10. Sohrab AS, Varatharajan R, **Muthuraman A**. Palm-oil-derived tocotrienol-rich fraction attenuates vascular dementia in type 2 diabetic rats. In Special Issue "Molecular Pharmacology of Vascular Disease" of *International Journal of Molecular Sciences*, 2022; 23(21), 13531. (IF: **6.208**; Indexed in **Scopus** and **Web of Science**).
11. Subramanian A, Thirunavukkarasu J, **Muthuraman A**. Anatomical, behavioural and histopathological evaluation of colostrum in streptozotocin-induced diabetic retinopathy in Swiss Albino mice. *Neuroquantology* 2022; 20(8), 3332-3347. (IF: **0.453**; Indexed in **Scopus**)
12. Lim KG, Varatharajan R, **Muthuraman A**. The attenuating effect of beta-carotene on streptozotocin induced diabetic vascular dementia symptoms in rats. *Molecules* 2022 *Molecules* 2022, 27, 4293. (IF: **4.927**; Indexed in **Scopus** and **WOS**).
13. Subramanian A, Thirunavukkarasu J, **Muthuraman A**. Astaxanthin ameliorates the diabetic retinopathy associated visual dysfunction in Swiss albino mice via inhibitory processes of neuron-specific enolase activity. *Processes*, 2022, 10, 1318. (IF: **3.352**; Indexed in **Scopus** and **WOS**).
14. Lim KG, Muthuraman A. Ameliorative processes of beta-carotene in the streptozotocin-induced diabetic vascular dementia in rat. *Processes* 2022, 10(7), 1324. (IF: **3.352**; Indexed in **Scopus** and **WOS**).
15. Dhamodharan J, Sekhar G, Muthuraman A. Epidermal growth factor receptor kinase inhibitor ameliorates  $\beta$ -amyloid oligomer

induced Alzheimer disease in Swiss Albino mice. *Molecules* 2022, 27(16):5182. (IF: 4.927; Indexed in Scopus and Web of Science).

16. Dhamodharan J, Sekhar G, **Muthuraman A**. Neurobehavioral and neurochemical evaluation of epidermal growth factor receptor (EGFR) inhibitor – gefitinib in  $\beta$ -amyloid oligomer induced Alzheimer's disease in mice model. *Chinese Journal of Medical Genetics* 2022, 31(3), 281-289. (Indexed in Scopus).
17. Dhamodharan J, Sekhar G, **Muthuraman A**. Neurobehavioral and neurochemical evaluation of rutin in  $\beta$ -amyloid oligomer-induced Alzheimer's disease in Swiss mice. *Neuroquantology* 2022, 20(8), 3348-3359. (Indexed in Scopus).
18. Rishitha N, **Muthuraman A**. Therapeutic investigation of alpha naphthoflavone in the intracerebroventricular injection of L-cysteine induced vascular dementia in rats. *Alzheimers & Dementia*. 2021;17(12):e058344. (IF: 21.566; Indexed in Scopus and WOS).
19. Yang X, Gao Y, Aswinprakash S, **Muthuraman A**, Huang C. Therapeutic investigation of nano-CoQ10 in diabetic retinopathy model of *Danio rerio*. *Lat. Am. J. Pharm.* 2021; 40(7): 1526-1533. (IF: 0.240; Indexed in WOS).
20. Sharma N., Khurana N, **Muthuraman A**, Utreja P. Pharmacological evaluation of vanillic acid in rotenone-induced Parkinson's disease rat model. *European Journal of Pharmacology* 2021; 903(15): 174112. (IF: 3.263; Indexed in Scopus and WOS).
21. Sharma N., Khurana N, **Muthuraman A**, Utreja P. Azelaic acid attenuates rotenone-induced behavioural alterations in parkinson's disease rat model. *Plant Archives* 2021; 21(1): 2333-2337.
22. Christopher PV, **Muthuraman A**, Zhang LS, Jordon KSY, Jonathan KHH. Effect of methanol extract of *Polygonum minus* on neuropathic pain and cognitive function in rats. *International Journal of Nutrition, Pharmacology, Neurological Diseases*. 2021; 11(2): 154-162 (Indexed in Scopus).
23. Rishitha N, **Muthuraman A**, Saravanababu C. Therapeutic evaluation of thymoquinone in the intracerebroventricular injection of L-cysteine induced vascular dementia in rats. *International Journal of Nutrition, Pharmacology, Neurological Diseases*. 2020; 10(2): 120-127 (Indexed in Scopus).
24. Rishitha N, **Muthuraman A**. Preventative effects of alpha-naphtho flavone in vascular dementia. *Front Biosci (Elite Ed)*. 2020; 12: 79-94. (IF: 3.234; Indexed in Scopus)
25. Jaya Raja Kumar, Varatharajan R, **Muthuraman A**. Preparation and evaluation of povidone iodine based microsphere for wound healing activity in rats. *J. Pharm. Sci. & Res.* 2020; 12(3): 436-

442.

26. Bavani Y, Marimuthu K, Varatharajan R, Parasuraman S, **Muthuraman A**. Investigate the effect of fluvastatin and pravastatin on gentamicin-induced acute kidney injury in Sprague Dawley rats. *EC Pharmacology and Toxicology* 7.11 (2019): 64-71.
27. Sharma N., Khurana N, **Muthuraman A**, Utreja P. Pharmacological evaluation of azelaic acid against neurochemical and histopathological alterations using Parkinson's disease rat model. *Journal of Emerging Technologies and Innovative Research* 2019; 6(2): 1094-1100.
28. Sharma N., Khurana N, **Muthuraman A**, Utreja P. Ameliorative effect of azelaic acid against oxidative stress induced by rotenone in Parkinson's disease rat model. *IJRAR* 2019; 6(1); 67-74.
29. Kaur S, **Muthuraman A**. Ameliorative effect of gallic acid in paclitaxel-induced neuropathic pain in mice. *Toxicol Rep.* 2019; 6: 505-513. (IF: 2.63; Indexed in Scopus and WOS)
30. **Muthuraman A**, Nafisa K, Sowmya MS, Arpitha BM, Choedon N, Sandy CD, Rishitha N, Johurul I. Role of ambrisentan (selective endothelin-A receptor antagonist) on cigarette smoke exposure induced cognitive impairment in *Danio rerio*. *Life Sci.* 2019; 222: 133-139. (IF: 3.234; Indexed in Scopus and WOS)

#### **Review Articles**

1. Siang LJ, **Muthuraman A**, Karunakaran T, Vijeepalam K, Veerasamy R. *Canarium odontophyllum* fruit – delving into the intricacies of the fruit, shedding light on its phytochemicals and pharmacological efficacy: *Canarium odontophyllum* fruit– A review". *Jordan Journal of Pharmaceutical Sciences (JJPS)*, 2024 (Article in Press).
2. Muthusamy R, **Muthuraman A**, Anand K. Traditional Therapies Involving Nutrition for the Management of COVID-19. *Coronaviruses*, 2024; 5(2), e271023222838. (Scopus indexed)
3. Ramesh M, **Muthuraman A**, Anand K. WITHDRAWN: Traditional therapies involving nutrition for the management of COVID-19. Flattening the curve of COVID-19: An approach of nutrition and lifestyle changes. *Coronaviruses*, 2022;3:e280322202701.
4. **Muthuraman A**, Ramesh M, Aswinprakash S, Jagadeesh D, Lim KG. Overview of SARS-CoV-2 and Possible Targets for the Management of COVID-19 Infections. Special thematic issue: Flattening the curve of COVID-19: An approach of nutrition and lifestyle changes. *Coronaviruses* 2022;3:e230622206308.
5. **Muthuraman A**, Ramesh M, Shaikh SA, Aswinprakash S, Jagadeesh D. Physiological and pathophysiological role of cysteine metabolism in human metabolic syndrome. *Drug*

- Metabolism Letter, 2021; 14(3):177-192. (**Indexed in Scopus**)
6. Kaur B., **Muthuraman A.**, Gautam SP. Sigma receptor ligands: New insights into the cardioprotective potential. Research Journal of Pharmacy and Technology 2021; 14(2); 6753-6760. (**Indexed in Scopus**).
  7. **Muthuraman A**, Ramesh M. Computer-aided drug discovery (CADD) approaches for the management of neuropathic pain. Curr Top Med Chem. 2021; 21(32): 2856-2868. (**IF: 3.295; Indexed in Scopus**).
  8. **Muthuraman A**, Ramesh M, Thiagarajan V, Singla SK, Mudhol S, Muthukumar SP. Current perspectives of healthy mitochondrial function for healthy neurons. Curr Drug Targets. 2021; 22(14): 1688-1703. (**IF: 3.465; Indexed in WOS and Scopus**)
  9. Singla SK, **Muthuraman A**, Sahai D, Mangal N, Dhamodharan J. Therapeutic applications of transdermal microneedles. Frontiers in Bioscience (Elite Ed), 2021; 13: 158-184. (**IF: 2.349; Indexed in Scopus**)
  10. Sharma N, Tiwari N, Vyas M, Khurana N, **Muthuraman A**, Utreja P. An overview of therapeutic effects of vanillic acid. Plant Archives 2020; 20(2): 3053-3059. (**Indexed in Scopus**)
  11. Sharma N, Tiwari N, Vyas M, Khurana N, **Muthuraman A**, Utreja P. Pharmacological activities of azelaic acid: A recent update. Plant Arch 20(2); 2020: 3048-3052. (**Indexed in Scopus**)
  12. Bhaskaran M, Devegowda VG, Gupta VK, Shivachar A, Bhosale RR, **Muthuraman A**, Vaishnavi T. Current perspectives on therapies, including drug delivery systems, for managing glioblastoma multiforme. ACS Chem Neurosci 2020; 11: 2962-2977. (**IF: 4.486; Indexed in WOS**)
  13. Ramesh M, **Muthuraman A**. Quantitative Structure-Activity Relationship (QSAR) Studies for the Inhibition of MAOs. Comb Chem High Throughput Screen 2020; 23(2): 1-11. (**IF: 1.195; Indexed in Scopus**)

#### **Book chapters**

1. **Muthuraman A**. Aswinprakash S, Jagadeesh D. Chapter 72: *Hypothalamic and Anterior Pituitary Hormones*. In Textbook of Pharmacology (CBME Curriculum as per new MCI guidelines, India). Ed. Dr. Prasan R. Bhandari. Thieme Medical Publishers, India (2021) pp. 648-666.
2. **Muthuraman A**, Shaikh SA, Sikarwar MS, Ramesh M. Chapter 06: *The structure-activity relationship of marine products for neuroinflammatory disorders*. Prof. Atta-ur-Rahman (Ed.), Studies in Natural Products Chemistry-volume 70 (2021). Published by Elsevier Science Publishers, Amsterdam, Netherlands PP. 151-194.

3. **Muthuraman A**, Ramesh M, Venkata Rathina Kumar T. Chapter 6: *Current perspectives in the management of neurodegenerative Alzheimer's disease: Preclinical and clinical status*. Bijo Mathew and Della Grace Thomas Parambi (Eds): *Principles of Neurochemistry: Part II Revisiting Neurodegenerative Diseases* (2020). Publisher: Springer Nature Singapore Pte Ltd., Singapore.
4. Ramesh M, **Muthuraman A**, Paramakrishnan N, Vishwanathan BI. Part-I: Drugs from nature and their evaluation: Chapter 2. *Current Perspectives and methods for the characterization of natural medicines*. Rohit Dutt, Anil K. Sharma, Raj K. Keservani and Vandana Garg (Eds.) Promising Drug Molecules of Natural Origin. Apple Academic Press Inc., CRC Press (Taylor & Francis Group), Waretown, New Jersey 08758, USA. (2020).
5. Mahendran B, Vaishnavi T, Gowda V, Islam J, Rishitha N, Mahendran B, Vaishnavi T, Gowda V, Islam J, Rishitha N, **Muthuraman A**, Varatharajan R. Part-II: Herbal medicines in cancer therapeutics: Chapter 5. *Current and Future Perspectives of Marine Drugs for Cancer Disorders: A Critical Review*. Rohit Dutt, Anil K. Sharma, Raj K. Keservani and Vandana Garg (Eds.) Promising Drug Molecules of Natural Origin. Apple Academic Press Inc., CRC Press (Taylor & Francis Group), Waretown, New Jersey 08758, USA. (2020).
6. **Muthuraman A**, Rishitha N, Paramakrishnan N. Part-IV: Diverse applications of herbal medicines: Chapter 11. *Marine Drugs: A Source of Medicines for Neuroinflammatory Disorders*. Rohit Dutt, Anil K. Sharma, Raj K. Keservani and Vandana Garg (Eds.) Promising Drug Molecules of Natural Origin. Apple Academic Press Inc., CRC Press (Taylor & Francis Group), Waretown, New Jersey 08758, USA. (2020).
7. **Muthuraman A**, Rishitha N, Paramakrishnan N, Mahendran B, Ramesh M. Chapter 2: *Role of lipid peroxidation process in neurodegenerative disorders*. Prof. Mahmoud Ahmed Mansour (Eds.) Lipid Peroxidation, IntechOpen Limited, 32 London Bridge Street, London, United Kingdom, 2019.
8. **Muthuraman A**, Mehdi S, Rishitha N. Chapter 4: *Current trends in site and target specific delivery of nanomedicine for gene therapy*. Alexandru Mihai Grumezescu (Ed). Nanoparticles in Pharmacotherapy. Elsevier, William Andrew Applied Science Publisher, United Kingdom and United States, 2019. PP. 73-112.
9. Rishitha N. **Muthuraman A**. Chapter 03: *Therapeutic evaluation of solid lipid nanoparticle of cycloastragenol in Streptozotocin induced vascular dementia in Danio rerio*. Giovanni De Caridi (Ed). Abnormalities of Vascular System.

	<p>Open Access eBooks Publisher, 919 North Market Street, Suite 425, Wilmington, DE 19801, New Zealand, 2019. PP. 1-20.</p> <p>10. <b>Muthuraman A</b>, Rishitha N, Islam J. Chapter 2: <i>Recent advance of enzyme targets for the management of vascular dementia</i>. Ghulam Md Ashraf Eds. Advances in dementia research, IntechOpen Limited, 32 London Bridge Street, London, United Kingdom, 2019.</p> <p><b><u>Book chapters in book series</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Muthuraman A</b>, Venkataratinakumar T, Paramakrishnan N, Ramesh M, Singla SK, Madesh T. Chapter 03 titled <b>Ginsenoside Rb1 and phosphoramidon are studied in the zebrafish model of diabetic retinopathy, a progressive proliferative and non-proliferative disorder of retina with alterations of the blood-retinal barrier</b>. Leon V. Berhardt (Ed.). Series: Advances in Medicine and Biology – Volume 164; PP. 67-96. Published by Nova Science Publishers INC., Newyork, USA (August, 2020).</li> <li>2. <b>Muthuraman A</b>, Varatharajan R, Jaya Raja Kumar K. Chapter 5: <i>Zebrafish models for screening of cardiotoxic agents and it exists outside the ambit of cardiovascular research</i>. Eleanor H. Bennington (Ed). Horizons in World Cardiovascular Research- Volume 17, Nova Science Publishers Inc. New York, USA, 2019.</li> </ol> <p><b><u>Magazine published</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Dr. Muthuraman A</b>. Irisin as Myokine Hormone: Current and Future Perspectives in the Management of Neurovascular Disorders. Published in International Magazine of APSE Bulletin 2023. pp. 52-55. <b>ISBN: 978-93-5768-527-6</b>.</li> <li>2. Lim KG, <b>Muthuraman A</b>. Palm oil mill effluent-derived beta-carotene: The hidden treasure in Malaysia. Published in international magazine of APSE Bulletin. 2022. pp. 37-38. <b>ISBN: 978-93-5768-527-6</b>.</li> <li>3. Yamunna P, Aswinprakash S, <b>Muthuraman A</b>. Palm oil mill effluent derived beta-carotene – Magic bullet for better vision in diabetic retinopathy. Published in international magazine of 1<sup>st</sup> APSE Bulletin - 2022. pp. 41-43. <b>ISBN: 978-93-5768-527-6</b>.</li> </ol>
On-going Research	<ol style="list-style-type: none"> <li>1. <b>Dr. Arunachalam Muthuraman</b> (Principle Investigator). Project entitled “<i>Therapeutic investigation of beta-carotene and rutin in beta-amyloid induced Alzheimer disease pathogenesis via exploration of multiple molecular pathways</i>” under the AIMST UNIVERSITY - Internal research grant scheme with collaboration of NITTE University (MOU Partner). The fund was received on 30<sup>th</sup> August 2024 (RM 20,000).</li> <li>2. Prof. Veerasamy Ravichandran (<i>Project leader</i>), <b>Assoc. Prof. Arunachalam Muthuraman</b>, Dr. Kamini Vijeepallam, Dr.</li> </ol>

	<p>Thiruventhan Karunakaran (USM). Project entitled “<i>Unravelling the Phytochemical Profile and Elucidating the Antiepileptic Potential of Hydroalcoholic Extract of Sarawak Native Fruit - Dabai (Canarium odontophyllum Miq) using In-vivo and In-silico Studies</i>”. Approved by Ministry of Education, Malaysia [RM 160,750]. (2023).</p> <p>3. Dr. Thenmoly K Damodaran (<i>Project leader</i>), <b>Assoc. Prof. Arunachalam Muthuraman</b>, Dr. Nurul Syahirah Binti Ahmad Sayuti, Dr. Norhidayah binti Rosman, Dr. Nur Adilla Binti Zaini, Assoc Prof. Muzaimi Mustapha (USM). Project entitled “<i>Pharmacological investigation of palm oil-derived tocotrienol-rich fraction in Parkinson's disease associated neurobehavioral improvement via gut microbiota-brain interactions in zebrafish animal model</i>”. Approved by Ministry of Education, Malaysia. [RM 160,500]. (2023).</p> <p>4. Aswinprakash Subramanian, Jagadeesh Dhamodharan, <b>Arunachalam Muthuraman</b>, Normah Binti Abd Jamil, Muthusamy Ramesh. Project entitled “<i>Pharmacological evaluation of palm oil mill effluent derived beta-carotene and astaxanthin in experimental models of diabetic retinopathy</i>”. Approved by Ministry of Education, Malaysia [RM: 163,500/-]. (2021)</p> <p>5. Krishnamoorthy Venkateskumar, Sugumaran A/L Manickam, Veerasamy Ravichandran, Parasuraman S., Mohd Baidi Bahari, Geethaa Sahgal, <b>Arunachalam Muthuraman</b>. Project entitled “<i>Investigation on Male Contraception Activity of Hibiscus Species-Molecular Insights</i>”. Approved by Ministry of Education, Malaysia. [RM 150,249]. (2018).</p> <p>6. Varatharajan R, Nor Azizan Binti Abdullah, Palanimuthu Vasanth Raj, Parasuraman S, Sundram A/L M. Karupiah, Ng Yen Ping, Vijayan Venugopal, <b>Arunachalam Muthuraman</b>. Project entitled “<i>A study on targeting and inhibiting triple negative breast cancer cells using siRNA nanobioconjugated mAbs</i>”. Approved by Ministry of Education, Malaysia. [RM 177,509.43]. (2017)</p> <p><b>Other research area</b></p> <ol style="list-style-type: none"> <li>1. Pre-clinical pharmacological and toxicological testing of natural medicines</li> <li>2. Drug docking and discovery for neurodegenerative disorders.</li> <li>3. Endocrinological disorders and their complications</li> <li>4. Aquatic pharmacological and toxicological screening of drugs.</li> <li>5. Cell biological analysis</li> </ol>
Completed Research	<ol style="list-style-type: none"> <li>1. <b>Dr. Arunachalam Muthuraman A.</b> Project entitled “<i>Therapeutic Evaluation of Palm Oil Derived Tocotrienol Rich Fraction for the Neuroprotective Effects in Animal Models of Vascular Dementia</i>” under the AIMST UNIVERSITY - Internal research grant scheme (PG research fund: RMC21/MUTHU/PG/SOHRAB)” was</li> </ol>



	<p>received on 19<sup>th</sup> March 2021 (RM 10,000).</p> <ol style="list-style-type: none"> <li>2. <b>Dr. Arunachalam Muthuraman</b>, Varatharajan Rajavel, Vijayan Venugopal, Kasi Marimuthu, Fazlina Mustaffa. Project entitled “<i>Investigations on potential and possible mechanisms of palm oil mill effluent based beta-carotene in experimental models of vascular dementia</i>”. Approved by Ministry of Education, Malaysia [RM 189,800]. (2019).</li> <li>3. Nirmal Singh, <b>Arunachalam Muthuraman</b>, Project entitled “<i>Investigations on potential and possible mechanism of Acorus calamus plant extracts in experimentally induced peripheral neuropathy</i>” under the Scheme no. <a href="#">01 (2344)/09-EMR-II</a>). Approved by Council of Scientific and Industrial Research (CSIR – Senior research fellow; SRF), New Delhi, India. (Approved Budget: Rs. 10,30,000/-; 2009-2012).</li> </ol>
Research Grants	<ol style="list-style-type: none"> <li>1. Prof. Veerasamy Ravichandran (<i>Project leader</i>), <b>Assoc. Prof. Arunachalam Muthuraman</b>, Dr. Kamini Vijeepallam, Dr. Thiruventhan Karunakaran (USM). Project entitled “<i>Unravelling the Phytochemical Profile and Elucidating the Antiepileptic Potential of Hydroalcoholic Extract of Sarawak Native Fruit - Dabai (Canarium odontophyllum Miq) using In-vivo and In-silico Studies</i>”. Approved by Ministry of Education, Malaysia [RM 160,750]. (2023).</li> <li>2. Dr. Thenmoly K Damodaran (<i>Project leader</i>), <b>Assoc. Prof. Arunachalam Muthuraman</b>, Dr. Nurul Syahirah Binti Ahmad Sayuti, Dr. Norhidayah binti Rosman, Dr. Nur Adilla Binti Zaini, Assoc Prof. Muzaimi Mustapha (USM). Project entitled “<i>Pharmacological investigation of palm oil-derived tocotrienol-rich fraction in Parkinson's disease associated neurobehavioral improvement via gut microbiota-brain interactions in zebrafish animal model</i>”. Approved by Ministry of Education, Malaysia. [RM 160,500]. (2023).</li> <li>3. Aswinprakash Subramanian, Jagadeesh Dhamodharan, <b>Arunachalam Muthuraman</b>, Normah Binti Abd Jamil, Muthusamy Ramesh. Project entitled “<i>Pharmacological evaluation of palm oil mill effluent derived beta-carotene and astaxanthin in experimental models of diabetic retinopathy</i>”. Approved by Ministry of Education, Malaysia [RM: 163,500/-]. (2021)</li> <li>4. <b>Arunachalam Muthuraman</b>, Varatharajan Rajavel, Vijayan Venugopal, Kasi Marimuthu, Fazlina Mustaffa. Project entitled “<i>Investigations on potential and possible mechanisms of palm oil mill effluent based beta-carotene in experimental models of vascular dementia</i>”. Approved by Ministry of Education, Malaysia [RM 189,800]. (2019)</li> <li>5. Krishnamoorthy Venkateskumar, Sugumaran A/L Manickam, Veerasamy Ravichandran, Parasuraman S., Mohd Baidi Bahari,</li> </ol>

	<p>Geethaa Sahgal, <b>Arunachalam Muthuraman</b>. Project entitled “<i>Investigation on Male Contraception Activity of Hibiscus Species- Molecular Insights</i>”. Approved by Ministry of Education, Malaysia. [RM 150,249]. (2018).</p> <p>6. Varatharajan R, Nor Azizan Binti Abdullah, Palanimuthu Vasanth Raj, Parasuraman S, Sundram A/L M. Karupiah, Ng Yen Ping, Vijayan Venugopal, <b>Arunachalam Muthuraman</b>. Project entitled “<i>A study on targeting and inhibiting triple negative breast cancer cells using siRNA nanobioconjugated mAbs</i>”. Approved by Ministry of Education, Malaysia. [RM 177,509.43]. (2017)</p> <p>7. Nirmal Singh, <b>Arunachalam Muthuraman</b>, Project entitled “<i>Investigations on potential and possible mechanism of Acorus calamus plant extracts in experimentally induced peripheral neuropathy</i>” under the Scheme no. <b>01 (2344)/09-EMR-II</b>. Approved by Council of Scientific and Industrial Research (CSIR – Senior research fellow; SRF), New Delhi, India. (Approved Budget: Rs. 10,30,000/-; 2009-2012).</p>
Consultancy	<p>✓ <b>Assoc. Prof. Arunachalam Muthuraman</b> selected for consultant to <b>Meru Jaya Pome Solutions Sdn Bhd</b> project ‘<i>Evaluation of developed innovative process (Advanced Hybrid Electro-Chemical Technology) for treating the Palm Oil Mill Effluent (POME) to achieve environmental sustainability</i>’ on 6<sup>th</sup> August, 2024.</p>
Awards/ Achievements	<ol style="list-style-type: none"> <li>1. <b>World Top 2% Scientist Rank – 2024: Dr. Arunachalam Muthuraman</b> Secured <b>Elsevier's Top 2% Scientist Rank – 2024</b> by Stanford University. Link: <a href="https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7">https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7</a></li> <li>2. <b>Global Top-50: Academician Award – 2023</b> awarded to Dr. Arunachalam Muthuraman in <b>EET CRS Global Top-50 Academicians &amp; Researchers-2023</b>; based on his outstanding contributions in Academics &amp; Technology field in Pharmaceutical Science. Awarded by Education Expo organizer, Greater Noida, India (Awarded on 13<sup>th</sup> March 2023).</li> <li>3. <b>International Achievement Award - 2023</b> awarded to Dr. Arunachalam Muthuraman in 11<sup>th</sup> event of <b>7-Continents Academic Brilliance Awards-23 (7C-ABA-23)</b>; based on his research Contribution in Pharmaceutical Science. Awarded by Education Expo organizer, Greater Noida, India (Awarded on 12<sup>th</sup> March 2023).</li> <li>4. <b>Excellence Service Award - 2022</b> awarded to Dr. Arunachalam Muthuraman in the <b>International Scientist Awards on Engineering, Science, and Medicine</b> based on his <b>Research</b> contribution in Pharmaceutical Science and Medicine on 6<sup>th</sup> June 2022 by INSO-2022 Awards Foundations and VDGGOOD Professional Association, India.</li> <li>5. <b>World Top 1% Neuroscientist of “Expert in Neuralgia-2021”</b></li> </ol>

	<p>awarded with rank of <b>0.37%</b> out of 1% of neuralgia experts analyzed based on ExpertScape's PubMed-algorithms over the past 10 years (Neuralgia; Pain Management Expert). <b>India Rank: 4<sup>th</sup> level; Asia Rank: 25<sup>th</sup> level.</b></p> <p>6. <b>Outstanding Scientist Award- 2021:</b> Based on “<i>Research Publications (Articles and Books) Competence</i>” on Engineering, Science and Medicine. Organized by VDGGOOD Technology Factory, Trivandrum, India. Awarded on 28<sup>th</sup> &amp; 29<sup>th</sup> August, 2021.</p> <p>7. <b>Best Keynote Presentation Award - 2020:</b> based on best keynote topic presentation on ‘Overview of risk factors &amp; biomarkers in the management of vascular dementia’ via <i>zoom online</i> webinar E-Conference in ‘<i>International Webinar on Dementia &amp; Neuroscience– 2020</i>’; Organized by GC organizations, International House, London, <b>United Kingdom</b>; on 21<sup>st</sup> &amp; 22<sup>nd</sup>, September, 2020.</p> <p>8. <b>Best Faculty Award - 2019:</b> based on teaching service and achievements. Organized by ‘<i>William Research Centre</i>’, Nagercoil, Kanyakumari. Awarded in Second international conference &amp; workshop on “<i>Conservation of Natural Resources and Traditional Siddha Pharmacological Approach for Your Future</i>” Siddha Workshop &amp; Award Presentation Ceremony (CNRTSPA – 2019) on 11- 13<sup>th</sup> December, 2019 at SKY ARK Hotel, William Research Centre, Nagercoil, Kanyakumari.</p> <p>9. <b>Dr. APJ Abdul Kalam Award for Teaching Excellence - 2019:</b> Based on “Teaching performance &amp; Achievements”. Awarded by ‘<i>Marina Labs</i>’ (NABL accredited research and development organization); 14 Kavya Gardens, N.T. Patel Road, Nerkundram, Chennai -7, India. Award received with 24<sup>th</sup> November, 2019.</p>
Professional Membership	<ol style="list-style-type: none"> <li>1. Tamilnadu State Pharmacy Council, Tamilnadu (India). (9764 A1) -As a Registered Pharmacist.</li> <li>2. Alumini Association, Madurai Medical College, Tamilnadu (India) - Active Member.</li> <li>3. Alumini association, Punjabi University, Patiala, Punjab (India)-Active Member.</li> <li>4. Indian Pharmacological Society (LM 305) - Life Member.</li> <li>5. Institutional Animal Ethics Committee (CPCSEA, Govt. of India) -Scientist-In-Charge.</li> <li>6. Alzheimer's and Related Disorders Society of India (NO-301) - Life Member.</li> <li>7. International Society of Neurochemistry (Member ID.: 17089) - Active Member.</li> <li>8. Member of Bose Science Society (M386/BSS/2017; 02.12.2017) -Life Member.</li> <li>9. Fellow of Bose Science Society (FBSS; F386/BSS/2017; 02.12.2017) – Fellow.</li> <li>10. Association of Pharmacy Professionals (APP/KA/LM-025/17;</li> </ol>

	<p>15.12.2017) - Life Member.</p> <p>11. Association of Pharmaceutical Teachers of India (LM-1; 09.01.2018) - Life Member.</p> <p>12. Institutional Biosafety Committee (AIMST University). – Secretary.</p> <p>13. American Chemical Society (ACS - Chemistry of Life; M.No.: 30848489) - Community Member.</p> <p>14. ACS Network in Chemistry Community Online - Active Member</p> <p>15. Association of Pharmaceutical Scientists and Educators (APSE) - Vice-President.</p>
Supervision	<p><b><u>Supervised:</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Dr. A. Muthuraman</b> supervised as the main supervisor for PhD student Mr. Lim Khian Giap (2024).</li> <li>2. <b>Dr. A. Muthuraman</b> supervised as the main supervisor for PhD student Mr. Sohrab Aktar Husain Shaikh (2024).</li> <li>3. <b>Dr. A. Muthuraman</b> supervised as the main supervisor for PhD student Ms. Satbir Kaur (2021).</li> <li>4. <b>Dr. A. Muthuraman</b> supervised as the main supervisor for PhD student Ms. Narahari Rishitha (2020).</li> <li>5. <b>Dr. A. Muthuraman</b> supervised as co-supervisor for PhD student Ms. Neha Sharma (2021).</li> <li>6. <b>Dr. A. Muthuraman</b>, supervised as co-supervisor for PhD (Medical Anatomy) student Dr. Jagadeesh Dhamodharan (2023).</li> <li>7. <b>Dr. A. Muthuraman</b>, supervised as co-supervisor for PhD (Medical Anatomy) student Mr. Aswinprakash Subramanian (2023).</li> <li>8. <b>Dr. A. Muthuraman</b>, supervised as Co-Supervisor for Master in Science (Human Anatomy) student Mr. Baala Sharmma (ID: M20020032), in the Faculty of Medicine, AIMST University, Malaysia (2022).</li> <li>9. <b>Dr. A. Muthuraman</b>, supervised as co-supervisor for Master of Science (Human Anatomy) student Ms. Evelyn Jerusha Edward (2021).</li> </ol> <p><b><u>Ongoing:</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Dr. A. Muthuraman A.</b> was appointed as Co-Supervisor for PhD student Ms. Lim Joe Siang (2023).</li> <li>2. <b>Dr. A. Muthuraman</b> was appointed as the main supervisor for PhD student Ms. Yamunna A/P Paramaswaran (2022).</li> <li>3. <b>Dr. A. Muthuraman</b> was appointed as co-supervisor for Master of Science (Pharmacy) student Ms. Sanchitha Thambirajah (2020).</li> </ol>

	<p><b>Ph.D. in Pharmaceutical Sciences</b></p> <ul style="list-style-type: none"> <li>✓ Main Supervisor: 04 students - Completed.</li> <li>✓ Co-Supervisor: 03 students - Completed.</li> <li>✓ Co-Supervisor: 01 student - Pursuing.</li> </ul> <p><b>Master of Pharmacy</b></p> <ul style="list-style-type: none"> <li>✓ Main Supervisor: 21 students - Completed.</li> <li>✓ Co-Supervisor: 02 students - Completed.</li> <li>✓ Co-Supervisor: 01 student - Pursuing.</li> </ul> <p><b>Bachelor of Pharmacy</b></p> <ul style="list-style-type: none"> <li>✓ Supervisor: 42 students - Completed.</li> </ul>
Teaching in AIMST	<p><b>B. Pharm</b></p> <ol style="list-style-type: none"> <li>1. Anatomy &amp; Physiology,</li> <li>2. Cardiovascular System &amp; Pharmacotherapy</li> <li>3. Pulmonary and Renal System &amp; Pharmacotherapy</li> <li>4. General Pharmacology &amp; Toxicology</li> <li>5. Central Nervous System &amp; Pharmacotherapy</li> <li>6. Anti-Neoplastic and Immunomodulators</li> <li>7. Pharmacology IV</li> </ol> <p><b>B.Sc. (Hons) Biomedical Sciences</b></p> <ol style="list-style-type: none"> <li>1. Systemic Pharmacology</li> <li>2. Toxicology</li> <li>3. Principles of Laboratory Animal Science</li> </ol> <p><b>B. Nursing (Hons)</b></p> <ol style="list-style-type: none"> <li>1. Applied Pharmacology in Critical Care</li> </ol> <p><b>B. Physiotherapy (Hons)</b></p> <ol style="list-style-type: none"> <li>1. Pharmacology</li> <li>2. Systemic Pharmacology</li> </ol>
Areas of Expertise	<ul style="list-style-type: none"> <li>• Neuropharmacology (Neuropathic pain, vascular dementia, Alzheimer's disease, epilepsy, Parkinson's disease, &amp; stroke).</li> <li>• Pharmacokinetic and pharmacodynamic study</li> <li>• Diabetic complications</li> <li>• Marine biology &amp; toxicology</li> <li>• Aquatic toxicology &amp; pharmacology</li> <li>• Cell biological analysis</li> <li>• Toxicological evaluation as per OECD guidelines</li> </ul>
Contact Details: Email:	<ul style="list-style-type: none"> <li>• Mobile No: +60 - 0174509806</li> <li>• <a href="mailto:muthuraman.a@aimst.edu.my">muthuraman.a@aimst.edu.my</a> ; <a href="mailto:muthuraman8@gmail.com">muthuraman8@gmail.com</a></li> </ul>