

## CURRICULUM VITAE



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### Education

Certificate / Qualification Obtained	Name of School / Institution	Year	Area of Specialization
PhD	Universiti Putra Malaysia	2000-2004	Genetics
MSc	Universiti Putra Malaysia	1997-2000	Nutritional Biochemistry
BSc	Universiti Putra Malaysia	1993-1997	Food Sc. and Technology

### Areas of Interest

1. Human Genetics and Diagnostics
2. Bioinformatics
3. Stem Cells
4. Regenerative Medicine
5. Biosensor

### Professional Qualification/ Membership/ Affiliation

Organization	Qualification / Scientific Experience/ Membership type / Position	Year
Centre for Cellular and Molecular Platforms, Bangalore, India	Sabbatical (Academic Entrepreneurship)	2017-2018
Imperial College London, UK	Postdoctoral (Stem Cell Biology)	2009-2011
CBS Imperial College, UK	Personal License: Animals (Scientific Procedures) Act 1986 (UK) (Regulated procedures on living small laboratory animals)	2009
Tissue Engineering Society of Malaysia	Member	2011 - present



Malaysian Society of Neurosciences	Life Member	2011
United Genetic Sdn Bhd (Startup under Innohub, UPM)	Founder and Director	2014 - present
Community Transformation Through Education and Research Society	Life Member	2015 - present
Malaysian Society for Stem Cell Research and Therapy	Life Member	2017 - present
Genetic Society of Malaysia	Member	2018
Community Transformation Through Education and Research Society	Committee Member (Auditor)	2017-2018
Malaysian Society Of Neurosciences (Basic Neuroscience Chapter)	Committee Member	2013 - 2015
Tissue Engineering Society of Malaysia	Committee Member (Vice Treasurer)	2011-2013
Tissue Engineering Society of Malaysia	Committee Member (Vice Secretary)	2013-2015
Tissue Engineering Society of Malaysia	Committee Member (Institution Representative)	2015-2017
Tissue Engineering Society of Malaysia	Committee Member (Institution Representative)	2017-2019
Human Genome Organisation (HUGO)	Member	2019-present
Persatuan Pegawai Akademik Universiti Putra Malaysia	Member	2019 - present
Malaysian Society for Stem Cell Research and Therapy	Life member (Council Member)	2019-2023

**Appointments (Inside and Outside UPM)**

<b>Position</b>	<b>Level (International/National/University/Faculty/Department)</b>	<b>Year</b>
Head of Department of Biomedical Science	Faculty	2019
Head of Genetics and Regenerative Research Centre	Faculty	2018-2020

Income Generation Committee of the Faculty of Medicine and Health Sciences	Faculty	2018-2020
Stem Cell Research Laboratory Coordinator	Faculty	2018-2021
MS ISO/IEC 17025 Technical Manager	Faculty	2016-2018
MS ISO/IEC 17025 Deputy Technical Manager	Faculty	2013-2015
MS ISO/IEC 17025 Approved Signatory	Faculty	2013-2015
Research Grants Evaluation Panel	University/National	2007-present
Review Editor on the Editorial Board of RNA (specialty section of Frontiers in Genetics and Frontiers in Molecular Biosciences)	International	2021-present
Independent Consultant for UPM ethics committee (JKEUPM)	University	2018-2023
Primary Reviewer for UPM ethics committee (JKEUPM)	University	2018-present
Research Consultant for Nichi-Asia Life Science Sdn. Bhd.	National	2020-2022

## Publications

### Journals (in 5 years)

- Al-Battawi S, Latif MT, How V, **Thilakavathy K**, Hamid HHA, Hameed S, Ho YB. 2024. Polycyclic aromatic hydrocarbons (PAHs) in blood serum of adults living in high and low-traffic volume areas in Malaysia: A comparative cross-sectional study. *Environmental Research*, 261: 119744. <https://doi.org/10.1016/j.envres.2024.119744>. **IF: 8.3 (T10) (Co-Author)**
- Aissvarya, S, Ling KH, Arumugam M, **Thilakavathy, K**. 2024. Molecular genetics of Dupuytren's contracture. *EFORT Open Reviews*, 9(8), 723-732. <https://doi.org/10.1530/EOR-23-0056>. **IF: 3.4 (Q1) (Corresponding)**
- Mohad Azmi NH, Suppiah S, Ibrahim NSN, Buhari I, Seriramulu VP, Mohamad M, Karuppiah T, Omar NF, Ibrahim N, Razali RM, Harrun NH, Sallehuddin HM, Syed Nasser N, Ahmad U. 2024. Default mode network perturbations in Alzheimer's disease: an fMRI study in Klang Valley, Malaysia. *Neurosci Res Notes*. 7(1):284.1-284.14. <https://neuroscirn.org/ojs/index.php/nrnotes/article/view/284>. **Scopus (Co-Author)**
- Lee Y, Ting T, Lim C, Musa NH, **Thilakavathy K**, Ling KH. 2024. Identification of a novel IGSF1 variant in two Malaysian malesiblings with central hypothyroidism and macroorchidism. *Journal of Clinical Research in Pediatric Endocrinology*. <https://doi.org/10.4274/jcrpe.galenos.2024.2023-12-1>. **IF: 2.016 (Q3) (Co-Author)**
- Vealan K, Joseph N, Alimat S, Karumbati AS, **Thilakavathy K**. 2023. Lateral flow assay: a promising rapid point-of-care testing tool for infections and non-communicable diseases. *Asian Biomed (Res Rev News)*. 28;17(6):250-266. <https://doi.org/10.2478/abm-2023-0068>. **IF: 1.017 (Q4) (Corresponding)**
- Velusamy Y, Vivekanandan G, Romli MH, Shankar A, **Karuppiah T**, Yubbu P. 2023. Safety and efficacy of pharmacological approaches available for multisystem inflammatory syndrome in children (MIS-C): a

7. Hafizah MA, Subapriya S, Nabila IN, Buhari I, Priya SV, Amrina MA, Mazlyfarina M, **Thilakavathy K**, Farhayu ON, Hasyima AH, Normala I. 2023. Apolipoprotein e-genotyping and mri study for classifying alzheimer's disease using polymerase chain reaction–restriction fragment length polymorphism (pcr-rflp) and the restricted enzymes AFIII for rs429358 and HAE II for rs7412 technique: basic protocol and optimization strategies. Journal of Medical Imaging and Radiation Sciences. 54(3):S4. <https://doi.org/10.1016/j.jmir.2023.06.016>. **Scopus (Co-Author)**
8. Lee Y, Ting T, Lim C, Arrumugam-Arthini C, **Karuppiah T**, Ling KH. 2023. Novel *PAX4* variant in a child and family with diabetes mellitus – case report and review of the literature.. Journal of Pediatric Endocrinology and Metabolism. 36(10): 988-992. <https://doi.org/10.1515/jpem-2023-0171>. **IF: 1.520 (Q4) (Co-Author)**
9. Li Y, Hou J, Sun Z, Hu J, **Thilakavathy K**, Wang Y, Shao Z, Lu Y, Wang W, Xiong C. 2023. Monkeypox virus 2022, gene heterogeneity and protein polymorphism. Signal Transduction and Targeted Therapy. 8:278. <https://doi.org/10.1038/s41392-023-01540-2>. **IF: 38.120 (Q1) (Co-Author)**
10. Musa NH, **Thilakavathy K**, Mohamad NA, Kennerson ML, Inche Mat LN, Loh WC, Abdul Rashid AM, Baharin J, Ibrahim A, Wan Sulaiman WA, Hoo FK, Basri H and Khan Yusof Khan AH. 2023. Case Report: Incomplete Penetrance Of Autosomal-Dominant Myotonia Congenita Caused By A Rare *CLCN1* Variant c.1667T > A (p.I556N) in a Malaysian Family. Frontiers in Genetics. 13:972007. doi: 10.3389/fgene.2022.972007. **IF: 4.772 (Q1) (Corresponding Author)**
11. Tavana N, Ting TH, Lai K, Kennerson ML, **Thilakavathy K**. 2022. Whole Exome Sequencing Identifies Two Novel Variants in *PHEX* and *DMP1* in Malaysian Children with Hypophosphatemic Rickets. Italian Journal of Pediatrics. <https://doi.org/10.1186/s13052-022-01385-5>. **IF: 2.638 (Q2) (Corresponding Author)**
12. Al-Battawi S, Ho YW, Latif MT, How V, **Thilakavathy K**. 2022. Measurement of Leukocyte Telomere Length with Various Modifications to Cawthon's Method: A Review. Malaysian Journal of Medicine and Health Sciences. 18(SUPP5): 126-134. **Scopus (Co-Author)**
13. Xiuliang Liu X, Xiong J, Sun Z, Hu , **Thilakavathy K**, Chen M, Zhao Q, Feng Y, Jiang Q, Xiong C. 2022. Omicron: a chimera of two early SARS-CoV-2 lineages. Signal Transduction and Targeted Therapy. 7(1):90 <https://doi.org/10.1038/s41392-022-00949-5>. **IF: 18.187 (Q1) (Senior Author)**
14. Lye KL, Nordin N, Vidyadaran S, Tan NJ, Izanwati R, **Karuppiah T**. 2022. Comparative Evaluation of Mouse Bone Marrow Mesenchymal Stromal Cells Characteristics Cultured in Two Different Supplemented Media. Malaysian Journal of Medicine and Health Sciences. 18(1): 222-233. **Scopus (Senior and Corresponding Author)**
15. Maradiaga ODH, Mok PL, Sivapragasam G, Samrot AV, Ali Khan MS, Farhana A, Alzahrani B, Tong J, Karuppiah T, Joseph NMS, Subbiah SK. 2021 Lipofection of Single Guide RNA Targeting MMP8 Decreases Proliferation and Migration in Lung Adenocarcinoma Cells. Medicina (Kaunas) 57(7):710. doi: 10.3390/medicina57070710. **IF: 1.205 (Q2) (Co-Author)**
16. Sahrudin NA, Sun Z, Rosdi NA, Warriar S, **Thilakavathy K**. 2021 Integrative network pharmacology of *Moringa oleifera* combined with gemcitabine against pancreatic cancer. Processes 9: 1742. doi.org/10.3390/pr9101742. **IF: 2.753 (Q2) (Corresponding Author)**
17. Sun Z, He G, Huang N, **Thilakavathy K**, Lim JCW, Kumar SS, Xiong C. 2021 Glycyrrhizic Acid: A Natural Plant Ingredient as a Drug Candidate to Treat COVID-19. Frontiers in Pharmacology 12:707205. doi.org/10.3389/fphar.2021.707205. **IF: 4.225 (Q2) (Corresponding Author)**
18. Tavana N, **Thilakavathy K**, Kennerson ML, Ting TH. 2021 Genetic basis of hereditary hypophosphataemic rickets and phenotype presentation in children and adults. Endokrynologia Polska 72(4): 366–394. doi:

19. Rahman ANA, Hadi NHH, Sun Z, **Thilakavathy K**, Joseph, N. 2021 Regional prevalence of intermediate leptospira Spp. In humans: A meta-analysis. *Pathogens* 10(8): 943. doi.org/10.3390/pathogens10080943. **IF: 3.018 (Q2) (Senior and Corresponding Author)**
20. Sun Z, He G, Huang N, Chen H, Zhang S, Zhao Z, Zhao Y, Yang G, Yang S, Xiong H, **Karuppiah T**, Kumar SS, He J and Xiong C. 2020 Impact of the Inflow Population From Outbreak Areas on the COVID-19 Epidemic in Yunnan Province and the Recommended Control Measures: A Preliminary Study. *Frontiers in Public Health* 8:609974. doi: 10.3389/fpubh.2020.609974. **IF: 2.483 (Q2) (Senior Author)**
21. Subramanian MS, Nandagopal GMS, Nordin SA, **Thilakavathy K** and Joseph N. 2020 Prevailing Knowledge on the Bioavailability and Biological Activities of Sulfide Compounds from Alliums: A Potential Drug Candidate. *Molecules*, 25(18): 4111. doi.org/10.3390/molecules25184111. **IF: 3.267 (Q2) (Co-Author)**
22. Sun Z, **Thilakavathy K**, Kumar S, He G, Liu SV. 2020 Potential factors influencing repeated SARS outbreaks in China. *International Journal of Environmental Research and Public Health*, 17(5): 1633. doi.org/10.3390/ijerph17051633. **IF: 2.468 (Q2) (Senior Author)**

#### Conference Proceedings (in 5 years)

1. Noor Alif Wira NAS, **Thilakavathy K**, Ahmad Asnawi AW, Yap MYY, Sathar J, Selvaratnam V, Mohamed Ibrahim NH, Musa NH, Aissvarya S. 2024 Variant Identification Using Whole Exome Sequencing in Patients Suspected with Iron-Refractory Iron Deficiency Anaemia (IRIDA). 7th International Conference on Molecular Biology & Biotechnology (ICMBB) 2024, USIM Nilai, Negeri Sembilan, Malaysia, 26 - 27 June 2024: pp 34.
2. Noor Alif Wira NAS, Ahmad Asnawi AW, Mohamed Ibrahim NH, Musa NH, Aissvarya S, Yap MYY, Sathar J, Selvaratnam V, **Thilakavathy K**. 2024 Variant Identification Using Whole Exome Sequencing In A Family Suspected With Iron-Refractory Iron Deficiency Anaemia. 14th Malaysian Symposium of Biomedical Science 2024, UPM Serdang, Selangor, Malaysia, 14th June 2024: pp 40.
3. Aissvarya S, Hwa LK, Arumugam M and **Thilakavathy K**. 2024 Integrative Bioinformatics Analysis and Whole Exome Sequencing Reveal Differentially Expressed Genes and Single Nucleotide Polymorphisms in Dupuytren's Contracture. 15th International Symposium of Variants in the Genome, Porto, Portugal, 12-15 May 2024: pp 50.
4. Aissvarya S, Lim CT, Thong MK, Abdul-Aziz NM, Hwa LK, **Thilakavathy K**. 2024 Biallelic Variants in GLB1 Causes GM1-Gangliosidosis Disease in a Family with Two Siblings. 1st International Symposium and Workshop, Medical Genetics Update: From Genomics to Clinic, Jakarta, Indonesia, 16-18 May 2024: pp 98
5. Mohamed Ibrahim NH, Zainudin Z, Mohd Jamil AA, Nordin N, Abdul Hamid H, and **Thilakavathy K**. 2024 Differential Gene Regulation and Genetic Variants Associated with ANXA1, ANXA4, and VIM in Umbilical Cord Blood of Spontaneous Preterm Labor Patients. 15th International Symposium of Variants in the Genome, Porto, Portugal, 12-15 May 2024: pp 51.
6. Lim CT, Ting, TH, Ling KH, Lee YL, Musa NH, Mohamed Ibrahim, NH, **Thilakavathy, K**. 2024 De Novo Homozygous In2g Variant in CYP21A2 Shared by Two Siblings with Congenital Adrenal Hyperplasia. Human Genome Meeting 2024, Rome, Italy, 8-10 April, 2024. pp 78.
7. Saw SH, Selveindran N, Ting TH, **Thilakavathy K**, Hong JYH. 2023 Review of Hypophosphataemic Rickets in Hospital Putrajaya. Malaysian Endocrine & Metabolic Society (MEMS) Annual Congress 13, Kuala Lumpur, Malaysia, 7-9 July 2023. pp 82
8. Aissvarya S, Hwa LK, Arumugam M and **Thilakavathy K**. 2023 Genetic Variants of Dupuytren's Contracture. The 8th International Biotechnology Symposium, Sabah, Malaysia, 29-30 Aug 2023: pp 146.

9. Ibrahim NHM, Zainudin Z, Jamil AAM, Nordin N, Hamid HA and **Thilakavathy K.** 2023 Identifying Genetic Variants for Spontaneous Preterm Labor (sPTL) in Malay Preterm Infants through Whole-Exome Sequencing. The 8th International Biotechnology Symposium, Sabah, Malaysia, 29-30 Aug 2023: pp 62.
10. Musa NH, Khan AH , Kennerson M and **Thilakavathy K.** 2023 Comparative Evaluation of Sample Preparation and RNA Isolation Techniques for Gene Expression Analysis in Neuromuscular Diseases. The 8th International Biotechnology Symposium, Sabah, Malaysia, 29-30 Aug 2023: pp 154.
11. Aissvarya S, Hwa LK, Arumugam M and **Thilakavathy K.** 2023 Identification Of Dupuytren's Contracture Hub Genes Through Bioinformatics Approaches And Whole Exome Sequencing. 15th Malaysia International Genetics Congress, Selangor, Malaysia, 7-9 Mac 2023: pp 88.
12. Ibrahim NHM, Zainudin Z, Jamil AAM, Nordin N, Hamid HA and **Thilakavathy K.** 2023 In Silico Identification Of Hub Genes And Key Pathways Associated With Spontaneous Preterm Birth With Intact Membrane Across Tissues. 15th Malaysia International Genetics Congress, Selangor, Malaysia, 7-9 Mac 2023: pp 91.
13. Musa NH, Khan AH , Kennerson M and **Thilakavathy K.** 2023 Genetic Characterization Of A Myotonia Congenita Patient With A Rare C.1667t>A (P.I556n) Clcn1 Variant Using Mlpa And In Silico Analysis. 15th Malaysia International Genetics Congress, Selangor, Malaysia, 7-9 Mac 2023: pp 104.
14. Marashdeh L, Stanslas J, **Thilakavathy K,** Bahariah Khalid. 2022 *PDD01* Synergistic Growth Inhibitory Effect of Hydroxyurea and SRJ23 Combination on T-ALL Jurkat Cells. 2nd MACR International Scientific Conference 2022, Selangor, Malaysia, 7-8 Dec 2022: pg 44.
15. Rafiea NNA, Yubbu P, Ghanic ASA, Karuppiyah T 2022 Gene Variants Identification in Children with Right Isomerism in a Malaysian Family Using Whole Exome Sequencing. MPCS Annual Scientific Meeting 2022, Virtual Malaysia, 28 Sept - 1 Oct 2022.
16. Aissvarya S, Arumugam M, Hwa LK and **Thilakavathy K.** 2022 Identification of Differentially Expressed Genes in Dupuytren's Contracture: A Study Based on Geo Datasets. 3rd Women in Bioinformatics & Data Science LA Conference, Virtual, Argentina, 20-23 Sept 2022
17. Ibrahim NHM, Zainudin Z, Jamil AAM, Nordin N and **Thilakavathy K.** 2022 Analysis of Differentially Expressed Genes and Molecular Pathways in Spontaneous Preterm Birth: A Bioinformatics Approach. 3rd Women in Bioinformatics & Data Science LA Conference, Virtual, Argentina, 20-23 Sept 2022
18. Musa NH, Khan AH , Kennerson M, **Thilakavathy K.** 2022 A Rare CLCN1 Variant c.1667T>A (p.I556N) Showing an Incomplete Penetrance in a Family with Myotonia Congenita. Genome Informatics, Cambridge, UK , 21-23 Sept 2022: pg58.
19. Velusamy Y, Romli MH, **Thilakavathy K,** Yubbu P. 2022 Safety and Efficacy of Pharmacological Treatments Available for Multisystem Inflammatory Syndrome in Children (MIS-C): A Systematic Review. Practical Pediatric Update, Virtual Malaysia, 2-3 Sept 2022
20. Marashdeh L, Stanslas J, **Karuppiyah T,** Bahariah Khalid. 2022 Evaluation Of Srj23 And Hydroxyurea In Reducing The Viability Of Cell Line Isolated From Histiocytic Lymphoma, Malaysian Journal of Medicine and Health Sciences Vol.18 Supp 1, Advancing Precision Medicine with Emerging Technologies: Bridging Gap Between Academia and Industry, Virtual, 8-9 Dec 2021, pp78
21. Sahruddin NA, Zhong S, Rosdi NA, Warriar S, **Thilakavathy K.** 2021 A Network Pharmacology-Based Investigation on the Bioactive Compounds and Molecular Mechanism of Moringa oleifera against Pancreatic Cancer. 2nd Congress of Women in Bioinformatics and Data Science Latin America, Virtual, Argentina, 22-24 Sept 2021
22. Mosquill M, Karuppiyah T, Joseph NMS. 2021 Sequence Analysis of LipL41 and LipL21: Prospective Outer Membrane Proteins in Early Diagnosing Leptospirosis. 2nd Congress of Women in Bioinformatics and Data



Science Latin America, Virtual, Argentina, 22-24 Sept 2021

23. Rosdi NA, Zhong S, Sahrudin NA, Chenglong X, Guozhong H, **Thilakavathy K**. 2021 Elucidation of Molecular Biological Mechanisms of Gemcitabine Against Pancreatic Cancer Via Integrated Bioinformatics Analysis. 2nd Congress of Women in Bioinformatics and Data Science Latin America, Virtual, Argentina, 22-24 Sept 2021
24. Sahrudin NA, Zhong S, Rosdi NA, Warriar S, **Thilakavathy K**. 2021 Network Pharmacology-Based Prediction on the Combination of Moringa oleifera and Gemcitabine against Pancreatic Cancer. Asian Conference on Biomedical Research and Laboratory Medicine, Virtual, Malaysia, 24-26 Aug 2021: pg 44.
25. Rosdi NA, Zhong S, Sahrudin NA, Chenglong X, Guozhong H, **Thilakavathy K**. 2021 Evaluating the effect of lemongrass and gemcitabine combination treatment on pancreatic cancer through network pharmacology. Asian Conference on Biomedical Research and Laboratory Medicine, Virtual, Malaysia, 24-26 Aug 2021: pg 45
26. Abd Rahman AN, Hasnul Hadi NH, Zhong S, **Thilakavathy K**, Joseph N. 2021 A Meta-analysis on the worldwide prevalence of intermediate Leptospira spp. in human samples. Asian Conference on Biomedical Research and Laboratory Medicine, Virtual, Malaysia, 24-26 Aug 2021: pg 44
27. Ting TH, Tavana N, **Thilakavathy K**, Kennerson ML. 2020 PHEX mutation in a Malaysian hypophosphatemic rickets patient. International Conference on Children's Bone Health Virtual Forum : Bone Fragility Disorders in Children, Virtual, Europe, 18-20 Nov 2020. Pg. 30.
28. Kosno K, Kumar SS, Narcisse M, **Thilakavathy K**. 2020 Computational prediction of the conserved regions, 3D structure and epitope region of Leptospira LigA protein. 1st Congress of Women in Bioinformatics and Data Science Latin America, Virtual, Argentina, 21-24 Sept 2020: pg 55.
29. Syahirah SNA, Kumar SS, , **Thilakavathy K**, Narcisse M. 2020 Sequence analysis, 3D structural prediction and epitope mapping of LipL41: Potential diagnostic marker for pathogenic Leptospira. 1st Congress of Women in Bioinformatics and Data Science Latin America, Virtual, Argentina, 21-24 Sept 2020: pg 164.
30. Rahman KAA, Yazid MN, Rejali Z, **Thilakavathy K**, Nordin N. 2020 Neurogenic potential of human full-term amniotic fluid derived stem cells: prospective therapeutic cells for neurodegenerative disorders. Nature Conferences on Neurogenetics, Virtual, USA, 29-30 Jul 2020: pg 79-80.

#### Books (If any)

#### Chapter in Books (If any)

1. Jiabei T, Karuppiah T, Zhong S, Higuchi A, Subbiah SK. In: Suresh Kumar Subbiah, Akon Higuchi and Pooi Ling Mok, editors. Stem Cell Laboratory Techniques. Academic Press; 2023. ISBN 9780128237298. 41-69. DOI: 10.1016/B978-0-12-823729-8.00004-X. **(Co-Author)**
2. Nordin N, Rahman KAA, Ferdaos N, AA Hamid, Joharry MK, Z Rejali, **Karuppiah T**, MN Yazid. Isolation of human stem cells from full-term gestation amniotic fluid using immunoselection and one-stage culture techniques In: Suresh Kumar Subbiah, Akon Higuchi and Pooi Ling Mok, editors. Stem Cell Laboratory Techniques. Academic Press; 2023. ISBN 9780128237298. 71-94. DOI: 10.1016/B978-0-12-823729-8.00004-X. **(Co-Author)**

3. Tan NJ, Daim LDJ, Mohtarrudin N, Jamil AAM, **Thilakavathy K**. Spontaneous Unexplained Preterm Labor With Intact Membrane: Finding Protein Biomarkers Through Placenta Proteome. In: Oana-Maria Boldura and Cornel Balta, editor. Electrophoresis - Life Sciences Practical Applications. Germany: InTech; 2018. ISBN 978-1-78923-552-4. 1-21. DOI: 10.5772/intechopen.74925 (**Senior and Corresponding Author**)
4. **Thilakavathy K**, Nordin N, Ramasamy R, Ghoraishizadeh P, Rawi RIM, Singh G. Characteristics of full-term amniotic fluid-derived mesenchymal stem cells in different culture media. In: Pham PV, editor. Mesenchymal Stem Cells - Isolation, Characterization and Applications. Germany: InTech; 2017. ISBN 978-953-51-5280-4. 39-53. DOI: 10.5772/intechopen.69392. (**Senior and Corresponding Author**)
5. Nordin N, AA Hamid, **Thilakavathy K**, Z Rejali, MN Yazid. Human full term amniotic fluid: prospective receptive cells for chemical reprogramming into human induced pluripotent stem cells. In: TPGM Number 7: Soaring Beyond Frontiers of Genetics. Malaysia: Persatuan Genetik Malaysia; 2017. ISBN 978-967-14943-4-9. 171-179. (**Co-Author**)

### Research Grants

#### Received

No	Project No.	Project Title	Role	Year	Source of fund/amount (RM)	Status
1	91124	Foetal DNA in maternal serum and adverse pregnancy outcomes.	Project leader	2007-2009	UPM (70,000)	Completed
2	04/01/07/0103RU	Isolation and characterization of pluripotent amniotic fluid-derived stem (AFS) cells.	Co-researcher	2007-2010	UPM (70,000)	Completed
3	-	The contribution of stroma mediated immunosuppressive microenvironment to foetal and adult haemopoiesis.	Post Doctoral Fellow	2009-2011	MOHE (54,000)	Completed
4	04-04-11-1491RU	Isolation, propagation and identification of human amniotic fluid mesenchymal stem cells.	Project leader	2011-2013	UPM (32,000)	Completed
5	04-02-12-1758RU	Exploring differentiation potential of rat full term amniotic fluid stem cells into functional dopaminergic neurons in vitro: a potential model for Parkinson's disease.	Co-researcher	2012-2014	UPM (100,000)	Completed
6	FRGS/1/2012/SSK01/USIM/03/1	The development of a novel cancer therapeutic platform by tumour targeting mesenchymal stem cell and a protein vaccine	Co-researcher	2012-2014	MOE (85,600)	Completed

7	02-01-04-SF1654	Development of a dielectrophoresis microfluidic Lab-on-Chip device prototype for pure population isolation of untransformed murine bone marrow derived mesenchymal stem cells.	Project leader	2013-2015	MOSTI (292,500)	Completed
8	04-01-13-1198FR	Investigation of Inducible Wnt5a function in regulating differentiated midbrain dopaminergic neurons.	Co-researcher	2013-2015	MOE (90,000)	Completed
9	04-02-13-1326FR	A pilot study on identification of protein alterations underlying preterm delivery of Malay patients using proteomic approach.	Co-researcher	2013-2015	MOE (150,000)	Completed
10	02-01-04-SF1651	Generation of human amniotic fluid stem (AFS) cells from full term pregnancies: Prospective cells for therapy	Co-researcher	2013-2015	MOSTI (260,185)	Completed
11	04-02-13-1327FR	Mutation analysis of PHEX, DMP1 AND FGF23 genes in hypophosphatemic rickets in Malaysian patients	Co-researcher	2013-2015	MOE (100,000)	Completed
12	04-01-14-1454FR	The influence of in vitro microenvironment niche to the genetic stability of human amniotic fluid-derived mesenchymal stem cells.	Project leader	2014-2017	MOE (106,000)	Completed
13	GP-IPS/2017/9455400	Gene expression profiling of cancer genes in Malaysian breast cancer patients	Co-researcher	2015-2017	UPM (20,000)	Completed
14	900321	Prenatal screening of Down Syndrome	Project leader	2015-2019	UPM (85,000)	Completed
15	04-01-16-1805FR	Discovering potential mRNA biomarkers for Hypophosphatemic Rickets Through Transcriptomic Profiling	Co-researcher	2016-2020	MOE (115,200)	Completed

16	GP-IPS/2017/9523900	Generation and characterisation of full-term human amniotic fluid derived mesenchymal stem cells using animal component free media	Project leader	2017-2018	UPM (20,000)	Completed
17	GP-IPS/2017/9526100	Chemical Reprogramming of Human Full Term Amniotic Fluid Cells into highly potent stem cells	Co-researcher	2017-2018	UPM (20,000)	Completed
18	GP-IPM/2020/9688200	Clinical and genetic analysis of Myotonia Congenita in a single family in Malaysia	Co-researcher	2020-2023	UPM (60,000)	Completed
19	FRGS/1/2020/SSK08/UPM/02/1	Investigating the Cause of Spontaneous Preterm Births Through Molecular Analyses	Co-researcher	2020-2023	FRGS (185,900)	Completed
20	FRGS/1/2020/SSK01/UPM/01/1	Whole-Exome Scanning for Variants and the Aetiology Associated with the Development of Dupuytren's Contracture Using Next Generation Sequencing	Co-researcher	2020-2023	FRGS (166,900)	Completed
21		Candidate variant and gene identification that underlie pathogenesis of Iron Refractory Iron Deficiency Anaemia patients	Researcher	2023-2023	UPM (38,000)	Completed

#### RESEARCH PROJECT WITHOUT FUNDING

<i>Computational prediction of LipL21 conserved regions and it's structure for the early diagnosis of leptospirosis</i>	<i>Project leader</i>	<i>2018-2019</i>	<i>Completed</i>
<i>Evaluation and improvement suggestions of current treatment options for pancreatic cancer</i>	<i>Project leader</i>	<i>2018-2021</i>	<i>Ongoing</i>
<i>Computational prediction of the conserved regions and protein structure of LipL41 for early diagnosis of leptospirosis</i>	<i>Project leader</i>	<i>2019-2020</i>	<i>Completed</i>
<i>Study of modified folfirinox efficacy on pancreatic cancer cell line</i>	<i>Project leader</i>	<i>2019-2020</i>	<i>Completed</i>
<i>Structural and Molecular Characterization of Leptospira LigA Protein</i>	<i>Project leader</i>	<i>2019-2020</i>	<i>Completed</i>

<i>Integrative pharmacological mechanism of Moringa oleifera combined with Gemcitabine against pancreatic cancer: findings of bioinformatics analyses</i>	<i>Project leader</i>	2020-2021	Completed
<i>Integrative pharmacological mechanism of Lemongrass combined with Gemcitabine against pancreatic cancer: findings of bioinformatics analyses</i>	<i>Project leader</i>	2020-2021	Completed
<i>The Global Prevalence of Intermediate Leptospira spp. in Humans: A meta analysis</i>	<i>Project leader</i>	2020-2021	Completed
<i>Fabrication of Nucleic Acid Lateral Flow Strip Test for Point of Care Diagnostic</i>	<i>Project leader</i>	2019-2021	Completed
<i>Development of Rapid Test Kit for the Identification of SARS-COV2 and Its Variants</i>	<i>Project leader</i>	2021-2022	Completed

### On-going

No	Project No.	Project Title	Role	Year	Source of fund/amount (RM)	Status
1	6380083	Gene Mutations in Heterotaxy Syndrome with Congenital Heart Disease Using Next Generation Sequencing Technology	Co-researcher	2020-2023	Children's Heartlink, USA (\$7000)	Ongoing
2	GP-IPS/2022/9736500	Elucidating the molecular characteristics of a rare I556N variant in the CLCN1 gene associated with Myotonia congenita in a single-family in Malaysia	Project leader	2017-2018	UPM (20,000)	Ongoing
3	6380171-14001	Further genetic analysis of children with hypophosphataemic rickets who tested negative on whole-exome sequencing	Co-researcher	2024-2025	Kyowa Kirin Asia Pacific Pte Ltd (30,000)	Ongoing

### Awards/ Recognition (Current)

No.	Name of awards	Award Authority	Award Type	Year
1.	Excellence Service Certification	Universiti Putra Malaysia	University	2005, 2012-2016, 2018-2023
2.	Second place micrograph competition (SEM), 31st	Microscopy Society Malaysia	National	2023

	Scientific Conference of Microscopy Society Malaysia			
3.	Second place micrograph competition (Other microscope), 31st Scientific Conference of Microscopy Society Malaysia	Microscopy Society Malaysia	National	2023
4.	Best Oral Presenter, 31st Scientific Conference of Microscopy Society Malaysia	Microscopy Society Malaysia	National	2023
5.	Second place micrograph competition (TEM), 31st Scientific Conference of Microscopy Society Malaysia	Microscopy Society Malaysia	National	2023
6.	Best Oral Presentation, Malaysia International Genetic Congress 15	Genetic Society Malaysia	International	2023
7.	10th Best Oral Presentation, 8th International Symposium of Biotechnology	Universiti Malaysia Sabah	International	2023
8.	Education Grant, for Variant Prioritization and Interpretation in Medical Genetics Course	Malaysian Society of Neuroscience (MSN)	National	2022
9.	Bursary Award, for Next Generation Sequencing Bioinformatics Course	Wellcome Genome Campus, Hinxton, Cambridge, United Kingdom	International	2022

### Professional Services/ Consultation

No.	Year	Title	Authority
1.	2006-2008	Hospital-based surveillance to estimate the disease burden of rotavirus gastroenteritis in children under five years of age in Singapore.	KK Women's and Children's Hospital, Singapore through GlaxoSmithKline Pte. Ltd..
2.	2008	Development of the standard subdivision: laboratory diagnostic science	Malaysian Qualifications Agency
3.	2016	Science Innovation Programme	SMK Jalan Empat Bandar Baru Bangi
4.	2018	Scientific Adviser for Study of Preeclampsia/Eclampsia	African Centre of Excellence
	2018-2023	Independent consultant for UPM ethics committee (JKEUPM)	Universiti Putra Malaysia
6.	2020-2023	Research Consultant	Research Consultant for Nichi-Asia Life Science Sdn. Bhd.

### Intellectuals Property

#### Patent Filed

No.	Date	Patent No.	Name
1.	2006	PI20061883	Prenatal Screening of Down Syndrome
2.	4/11/2020	LY2022W01931	LABench-WORKFLOW