CURRICULUM VITAE

A. BUTIR-BUTIR PERIBADI *(Personal Details)*			
Nama Penuh *(Full Name)*	Adam Leow Thean Chor		Gelaran *(Title):* Assoc. Prof. Dr
No. MyKad / No. Pasport *(Mykad No. / Passport No.)*	Warganegara *(Citizenship)* Malaysia	Bangsa *(Race)* Chinese	Jantina *(Gender)* Male
Jawatan *(Designation)* Assoc. Prof.	Agama *(Religion)* Islam	Tarikh Lahir *(Date of Birth)*	17-11-1975

Alamat Semasa *(Current Address)*	Jabatan/Fakulti *(Department/Faculty)*	E-mel dan URL *(E-mail Address and URL)*
17, Jalan Seri Putra 2/4B, Bandar Seri Putra, Bangi, 43000 Kajang, Selangor, Malaysia. Tel:-	Department of Cell and Molecular Biology, Faculty of Biotechnology and Biomolecular Sciences, 43400 UPM Serdang, Selangor, Malaysia. Tel: 03-97691943 Fax: 03-97697510	E-mail: adamleow@upm.edu.my URL: H/P: 012-6235808

B. KELAYAKAN AKADEMIK *(Academic Qualification)*			
Nama Sijil / Kelayakan *(Certificate / Qualification obtained)*	Nama Sekolah Institusi *(Name of School / Institution)*	Tahun *(Year obtained)*	Bidang pengkhususan *(Area of Specialization)*
PHD	Universiti Putra Malaysia	2005	Molecular Biology and Genetics Engineering
Bachelor of Science (Hons)	Universiti Putra Malaysia	2000	Microbiology

C. PENGALAMAN SAINTIFIK DAN PENGKHUSUSAN *(Scientific experience and Specialisation)*				
Organization	*Position*	*Start Date*	*End Date*	*Expertise*
Technology Enzyme and Research Group, UPM	Post-doctoral Fellow	2005	2007	Protein Engineering
Program Angkasawan Malaysia	Scientist	2006	2007	Protein Crystallization

D. PEKERJAAN *(Employment)*				
Majikan / *Employer*	Jawatan / *Designation*	Jabatan / *Department*	Tarikh lantikan / *Start Date*	Tarikh tamat / *Date Ended*
Universiti Putra Malaysia	Head of Department (Reappointment)	Cell and Molecular Biology	1 Jan 2021	31 Dec 2022
Universiti Putra Malaysia	Head of Department	Cell and Molecular Biology	1 Jan 2018	31 Dec 2020
Universiti Putra Malaysia	Assoc. Prof.	Cell and Molecular Biology	1 Mar 2017	-
Universiti Putra Malaysia	Senior Lecturer	Cell and Molecular Biology	7 Dec 2007	28 Feb 2017
Universiti Putra Malaysia	Post-Doctoral Fellow	Enzyme and Microbial Technology Research Group	2005	2007

E. ANUGERAH DAN HADIAH *(Honours and Awards)*				
Name of awards	*Title*	*Award Authority*	*Award Type*	*Year*
Academic Awards	Putra InnoCreative Carnival in Teaching and Learning 2018	CADe, UPM	Silver	2018
Non-Academic Awards	Best Researcher Award	Technology Enzyme and Research Group, UPM	Research Group	2005
	Young Scientist Award	Vice Chancellor, UPM	University	2008
	High Impact Industry and Community Network Awards 2018	Vice Chancellor, UPM	University	2018
Awards of Merit	Excellent Service Awards 2013	Vice Chancellor, UPM	University	2014
	Excellent Service Awards 2018	Vice Chancellor, UPM	University	2019

F. SENARAI PENERBITAN (Sila masukan nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan) *(List of publications – author (s), title, journal, volume, page and year published)*

Journal **H-INDEX:** **Google Scholar : 31** **Scopus : 25**	1. Nezhad, N.G., Jamaludin, S.Z.B., Rahman, R.N.Z.R.A., Normi, M.Y., Oslan, S.N., Shariff, F.M., Isa, N.M., Leow, T.C. (2024). Functional expression, purification, biochemical and biophysical characterization and molecular dynamics simulation of a histidine acid phosphatase from *Saccharomyces cerevisae*. *World Journal of Microbiology and Biotechnology*, 40(6), 171. 2. Mahyon, N.I., Sabri, S., Jijew, G.C., Salleh, A.B., Leow, T.C., Lim, S.J., Oslan, S.N.H., Masomian, M., Oslan, S.N. (2024). 1-Dodecanol as potential inducer for the FAO1 promoter (PFAO1) in morphologically identified *Meyerozyma guilliermondii* strain SO. *Arabian Journal of*

Science and Engineering.
3. Eskandari, A., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Advances in therapeutic cancer vaccines, their obstacles and prospects towards tumor immunotherapy. *Molecular Biotechnology*.
4. Hussian, C.H.A.C, Rahman, R.N.Z.R.A., Leow, A.T.C., Salleh, A.B., Ali, M.S.M., Latip, W. (2024). Enhancement in T1 lipase purification recovery using the novel construct pGEX4T1/His-T1. *Preparative Biochemistry & Biotechnology*, 54(4), 526.534.
5. Azman, A.A., Leow, A.T.C., Noor Dina, M.N., Mohd, S.A., L. W., Ali, M.S.M. (2024). Worldwide trend discovery of structural and functional relationship of metallo-β-lactamase for structure-based drug design: A bibliometric evaluation and patent analysis. *International Journal of Biological Macromolecules*, 128230.
6. Eskandari, A., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Current achievements, strategies, obstacles, and overcoming the challenges of the protein engineering in *Pichia pastoris* expression system. *World Journal of Microbiology and Biotechnology*, 40(1), 39.
7. Buhari, S.B., Nezhad, N.G., Normi, Y.M., Shariff, F.M., Leow, T.C. (2024). Insight on recently discovered PET polyester-degrading enzymes, thermostability and activity analyses. *3 Biotech*, 14(1), 31.
8. Eskandari, A., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Advanced freezing point insights into regulatory role of antifreeze proteins, their fundamentals, and obstacles in food preservation. *European Food Research and Technology*, 250(4), 1103-1121.
9. Hasan, W.A.N.W., Nezhad, N.G., Adilin, Y.M., Salleh, A.B., Rahman, R.N.Z.A., Leow, T.C. (2024). Shifting the pH profiles of *Staphylococcus epidermidis* lipase (SEL) and Staphylococcus hyicus lipase (SHL) through generating chimeric lipases by DNA shuffling strategy. *World Journal of Microbiology and Biotechnology*, 40(4), 106.
10. Nezhad, N.M. Mukred, A.D.M., Rahman, R.N.Z.R.A., Basri, M., Salleh, A.B., Leow, T.C. (2024). Purification and biochemical characterization of extracellular thermostable lipase from *Bacillus* sp. strain L2, *Biologia*, 79(6), 1887-1804.
11. Eskandari, A., Nezhad, N.G., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Essential factors, advanced strategies, challenges, and approaches involved for efficient expression of recombinant proteins in *Escherichia coli*. *Archives of Microbiology*, 206(4), 152.
12. Eskandari, A., Nezhad, N.G., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Recent insight into the advances and prospects of microbial lipases and their potential applications in industry. *International Microbiology*
13. Eskandari, A., Nezhad, N.G., Leow, T.C., Rahman, M.B.A., Oslan, S.N. (2024). Molecular dynamics-guided insight into the adsorption–inhibition mechanism for controlling ice growth/melt of antifreeze protein type IV mutant from longhorn sculpin fish. *Chemical Papers*, 78(7), 4437-4454.
14. Robert, A.R., Aladin, S., Budiman, C., Lee, P.C., Kamaruzzaman, K.A., Leow, T.C., Padzil, A.M. (2023). Heterologous expression and purification of calmodulin from *Plasmodium knowlesi* using codon-optimized synthetic gene. *Malaysian Journal of Microbiology*, 19(6), 718.
15. Albayati, S.H., Masomian, M., Ishak, S.N.H., Leow, A.T.C., Ali, M.S.M., Shariff, F.M., Noor, N.D.M., Rahman, R.N.Z.R.A. (2023).

	Altering the Regioselectivity of Lipase from *Geobacillus zalihae* toward sn-3 Acylglycerol Using a Rational Design Approach. *Catalysts*, 13 (2), 416. 16. Alias, F.L., Nezhad, N.G., Normi, Y.M., Ali, M.S.M., Budiman, C., Leow, T.C. (2023). Recent Advances in Overexpression of Functional Recombinant Lipases. *Molecular Biotechnology*, 65 (11), 1737-1749. 17. Chan, L.-C., Mat Yassim, A.S., Ahmad Fuaad, A.A.H., Leow, T.C., Sabri, S., Radin Yahaya, R.S., Abu Bakar, A.M.S. (2023). Inhibition of SARS-CoV-2 3CL protease by the anti-viral chimeric protein RetroMAD1. *Scientific Reports*, 13 (1), 20178. 18. Hamdan, S.H., Maiangwa, J., Nezhad, N.G., Ali, M.S.M., Normi, Y.M., Shariff, F.M., Rahman, R.N.Z.R.A., Leow, T.C. (2023). Knotting terminal ends of mutant T1 lipase with disulfide bond improved structure rigidity and stability. *Applied Microbiology and Biotechnology*, 107 (5-6), 1673-1686. 19. Hussian, C.H.A.C., Rahman, R.N.Z.R.A., Leow, A.T.C., Salleh, A.B., Ali, M.S.M., Latip, W. (2023). Enhancement in T1 lipase purification recovery using the novel construct pGEX4T1/His-T1. *Preparative Biochemistry and Biotechnology*. 20. Ismail, F., Ismail, K., Leow, T.C., Rahman, R.N.Z.R.A., Mohamad, R., Salleh, A.B., Arif, A. (2023). Preliminary Studies on the Production of Recombinant Thermostable Lipase in Stirred Tank Fermenter. *Asian Journal of Basic Science & Research* 5 (3), 107-115. (NON-CIJ) 21. Nezhad, N.G., Rahman, R.N.Z.R.A., Normi, Y.M., Oslan, S.N., Shariff, F.M., Leow, T.C. (2023). Isolation, screening and molecular characterization of phytase-producing microorganisms to discover the novel phytase. *Biologia*, 78 (9), 2527-2537. 22. Nezhad, N.G., Rahman, R.N.Z.R.A., Normi, Y.M., Oslan, S.N., Shariff, F.M., Leow, T.C. (2023). Recent advances in simultaneous thermostability-activity improvement of industrial enzymes through structure modification. *International Journal of Biological Macromolecules*, 232, 123440. 23. Rahman, N.N.A., Sharif, F.M., Kamarudin, N.H.A., Ali, M.S.M., Aris, S.N.A.M., Jonet, M.A., Rahman, R.N.Z.R.A., Sabri, S., Leow, T.C. (2023). X-ray crystallography of mutant GDSL esterase S12A of *Photobacterium marinum* J15. *3 Biotech*, 13 (5), 128. 24. Shah, F.L.A., Baharum, S.N., Goh, H.-H., Leow, T.C., Ramzi, A.B., Oslan, S.N., Sabri, S. (2023). Molecular cloning and *in silico* analysis of chalcone isomerase from *Polygonum minus*. *Molecular Biology Reports*, 50 (6), 5283-5294. 25. Siddiqui, Q., Ali, M.S.M., Leow, A.T.C., Oslan, S.N., Mohd Shariff, F. (2023). *In silico* identification and characterization of potential druggable targets among hypothetical proteins of *Leptospira interrogans* serovar Copenhageni: a comprehensive bioinformatics approach. *Journal of Biomolecular Structure and Dynamics*, 41 (20), 10347-10367. 26. Aris, S.N.A.M, Rahman, R.N.Z.R.A., Ali, M.S.M., Jonet, A., Motomura, T., Noor, N.D.M., Shariff, F.M., Hsu, K.C., Leow, T.C. (2022). Unraveling the crystal structure of *Leptospira kmetyi* riboflavin synthase and computational analyses for potential development of new antibacterials. *Journal of Molecular Structure*, 1265, 133420. 27. Halim, N.F.A.A., Ali, M.S.M., Leow, A.T.C., Rahman, R.N.Z.R.A. (2022). Membrane fatty acid desaturase: biosynthesis, mechanism and

architecture. *Applied Microbiology and Biotechnology*, 1-16.
28. Nezhad, N.G., Rahman, R.N.Z.R.A., Normi, Y.M., Oslan, S.N., Shariff, F.M., Leow, T.C. (2022). Thermostability engineering of industrial enzymes through structure modification. *Applied Microbiology and Biotechnology*, 1-22.
29. Yaacob, N.Y., Kamonsutthipaijit, N., Soontaranon, S., Leow, T.C., Rahman, R.N.Z.R.A., Ali, M.S.M. (2022). Structural interpretations of a flexible cold-active AMS8 lipase by combining small-angle X-ray scattering and molecular dynamics simulation (SAXS-MD). *International Journal of Biological Macromolecules*, 220, 1095-1103.
30. Zaidi, N.E., Shazali, N.A.H., Leow, T.C., Osman, M.A., Ibrahim, K., Rahman, N.M.A.N.A. (2022). Crosstalk between fatty acid metabolism and tumour-associated macrophages in cancer progression. *BioMedicine*, 12(4), 9-19.
31. Matinja, A.I., Kamarudin, N.H.A., Leow, A.T.C., Oslan, S.N., Ali, M.S.M. (2022). Cold-active lipases and esterases: a review on recombinant overexpression and other essential issues. *International Journal of Molecular Sciences*, 23(23), 15394.
32. Zaidi, N.E., Shazali, N.A.H., Leow, T.C., Osman, M.A., Ibrahim, K., Cheng, W.H., Lai, K.S., Rahman, N.M.A.N.A. (2022). CD36-Fatty acid-mediated metastasis via the bidirectional interactions of cancer cells and macrophages. *Cells*, 11(22), 3556.
33. Siddiqui, Q., Ali, M.S.M., Leow, A.T.C., Oslan, S.N., Shariff, F.M. (2022). In silico identification and characterization of potential druggable targets among hypothetical proteins of *Leptospira interrogans* serovar Copenhageni: a comprehensive bioinformatics approach. *Journal of Biomolecular Structure and Dynamics*, 1-21.
34. Rozi, M.F.A.M., Rahman, R.N.Z.A., Leow, T.C. and Ali, M.S.M. (2022). Ancestral sequence reconstruction of ancient lipase from family I.3 bacterial lipolytic enzymes. *Molecular Phylogenetics and Evolution*, 168, 107381.
35. Kumar, M.R., Azizi, N.F., Yeap, S.K., Abdullah, J.O, Khalid, M., Omar, M.Z., Leow, A.T.C., Mortadza, S.A. and Alitheen, N.B. (2022). Clinical and preclinical studies of fermented foods and their effects on Alzheimer's disease. *Antioxidants*, 11(5), 883.
36. Kumar, M. R., Yeap, S. K., Mohamad, N. E., Abdullah, J. O., Masarudin, M. J., Khalid, M., ... & Alitheen, N. B. (2021). Metagenomic and phytochemical analyses of kefir water and its subchronic toxicity study in BALB/c mice. *BMC Complementary Medicine and Therapies*, 21(1), 1-15.
37. Hamdan, S.H., Maiangwa, J., Ali, M.S.M., Normi, Y.M. Sabri, S. and Leow, T.C. (2021). Thermostable lipases and their dynamics of improved enzymatic properties. *Applied Microbiology and Biotechnology*, 105 (19), 7069-7094.
38. Kumar, M. R., Yeap, S. K., Lee, H. C., Mohamad, N. E., Nazirul Mubin Aziz, M., Khalid, M., ... & Alitheen, N. B. (2021). Selected Kefir Water from Malaysia Attenuates Hydrogen Peroxide-Induced Oxidative Stress by Upregulating Endogenous Antioxidant Levels in SH-SY5Y Neuroblastoma Cells. *Antioxidants*, 10(6), 940.
39. Ishak, S. N. H., Kamarudin, N. H. A., Ali, M. S. M., Leow, A. T. C., Shariff, F. M., & Rahman, R. N. Z. R. A. (2021). Structure elucidation and docking analysis of 5M mutant of T1 lipase *Geobacillus zalihae*. *PLoS one*, 16(6), e0251751.

40. Nadzirin, I. A., Chor, A. L. T., Salleh, A. B., Rahman, M. B. A., & Tejo, B. A. (2021). Discovery of new inhibitor for the protein arginine deiminase type 4 (PAD4) by rational design of α-enolase-derived peptides. *Computational Biology and Chemistry*, 92, 107487.
41. Aris, S.N.A.M, Rahman, M.Z.A., Rahman, R.N.Z.R.A., Ali, M.S.M., Salleh, A.B. and Leow, T.C. (2021). Identification of potential riboflavin synthase inhibitors by virtual screening and dynamics simulation studies. *Journal of King Saud University-Science* 33(2), 101270.
42. Abd Halim, N. F. A., Ali, M. S. M., Leow, A. T. C., & Abd Rahman, R. N. Z. R. (2021). Membrane-bound Δ12 fatty acid desaturase (FAD12); From *Brassica napus* to *E. coli* expression system. *International Journal of Biological Macromolecules*, 180, 242-251.
43. Maiangwa, J., Hamdan, S. H., Ali, M. S. M., Salleh, A. B., Abd Rahman, R. N. Z. R., Shariff, F. M., & Leow, T. C. (2021). Enhancing the stability of *Geobacillus zalihae* T1 lipase in organic solvents and insights into the structural stability of its variants. *Journal of Molecular Graphics and Modelling*, 105, 107897.
44. Eskandari, A., Leow, T.C., Rahman, M.B.A. and Oslan, S.N. (2020). Antifreeze Proteins and Their Practical Utilization in Industry, Medicine, and Agriculture. *Biomolecules* 10 (12), 1649
45. Salleh, A.B., Baharuddin, S.M., Rahman, R.N.Z.R.A., Leow, T.C., Basri, M. and Oslan, S.N. (2020). Host-Vector System for the Expression of a Thermostable Bacterial Lipase in a Locally Isolated *Meyerozyma guilliermondii* SMB. *Microorganisms* 8 (11), 17338.
46. Oyeleye, A.O., Mohd Yusoff, S.F., Abd. Rahim, I.N., Leow, T.C., Saidi, N.B. and Normi, Y.M. (2020). Effective refolding of a cysteine rich glycoside hydrolase family 19 recombinant chitinase from *Streptomyces griseus* by reverse dilution and affinity chromatography. *PLoS one* 15 (10), e0241074.
47. Ali, NSM, Salleh, A.B., Leow, T.C., Rahman, R.N.Z.R.A. and Ali, M.S.M. (2020). The Influence of Calcium toward Order/Disorder Conformation of Repeat-in-Toxin (RTX) Structure of Family I. 3 Lipase from *Pseudomonas fluorescens* AMS8. *Toxins* 12 (9), 579.
48. Yusoff, D.F., Rahman, R.N.Z.R.A., Masomian, M., Ali, M.S.M. and Leow, T.C. (2020). Newly isolated alkane hydroxylase and lipase producing *Geobacillus* and *Anoxybacillus* species involved in crude oil degradation. *Catalysts* 10 (8), 8512.
49. Nezhad, N.G., Rahman, R.N.Z.R.A., Normi, Y.M., Oslan, S.N., Shariff, S.M., Leow, T.C. (2020). Integrative Structural and Computational Biology of Phytases for the Animal Feed Industry. *Catalysts* 10 (8), 844.
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51. Selvaraju, G., Leow, T.C., Salleh, A.B. and Normi, Y.M. (2020). Design and Characterisation of Inhibitory Peptides against Bleg1_2478, an Evolutionary Divergent B3 Metallo-β-lactamase. *Molecules* 25 (24), 5797.
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Staphylococcus Family. *Molecules* 25 (17), 3858.
53. Ishak, S.N.H., Kamarudin, N.H.A., Ali, M.S.M., Leow, T.C. and Rahman, R.N.Z.R.A. (2020). Ion-Pair Interaction and Hydrogen Bonds as Main Features of Protein Thermostability in Mutated T1 Recombinant Lipase Originating from *Geobacillus zalihae*. *Molecules* 25 (15), 3430.
54. Bukhari, N., Leow, T.C., Rahman, R.N.Z.R.A. and Shariff, F.M. (2020). Single Residue Substitution at N-Terminal Affects Temperature Stability and Activity of L2 Lipase. *Molecules* 25 (15), 3433.
55. Ali, N.S.M. Salleh, A.B., Rahman, R.N.Z.R.A., Leow, T.C., Ali, M.S.M. (2020). Calcium-induced activity and folding of a repeat in toxin lipase from antarctic *Pseudomonas fluorescens* strain AMS8. *Toxins* 12 (1), 272.
56. Nezhad, N.G., Rahman, R.N.Z.R.A., Normi, Y.M., Oslan, S.N., Shariff, F.M. and Leow, T.C. (2020). Integrative structural and computational biology of phytases for the animal feed industry. *Catalysis* 10(8), 844.
57. Ishak, S.N.H., Kamarudin, N.H.A., Ali, M.S.M., Leow, T.C. and Rahman, R.N.Z.R.A. (2020). Ion pair interaction and hydrogen bonds as main features of protein thermostability in mutated T1 recombinant lipase originating from *Geobacillus zalihae*. *Molecules* 25(15), 3430.
58. Roslan, N.N., Ngalimat, M.S., Leow, T.C., Oslan, S.N., Baharum, S.N. and Sabri, S. (2020). Genomic and Phenomic Analysis of a Marine Bacterium, *Photobacterium marinum* J15. *Microbiological Research* 233, 126410.
59. Ali, N.S.M., Salleh, A.B., Rahman, R.N.Z.R.A., Leow, T.C. and Ali, M.S.M. (2019). Calcium-Induced Activity and Folding of a Repeat in Toxin Lipase from Antarctic *Pseudomonas fluorescens* Strain AMS8. *Toxins* 12(1), 27.
60. Arifi, F.A.M., Salleh, A.B., Rahman, R.N.Z.R.A., Leow, T.C., Latip, W. and Ali, M.S.M. (2019). Unravelling protein-organic solvent interaction of organic solvent tolerant elastase from *Pseudomonas aeruginosa* strain K crystal structure. *International Journal of Biological Macromolecules* 127, 575-584.
61. Yaacob, N., Kamarudin, N.H.A., Leow, T.C., Salleh, A.B., Rahman, R.N.Z.R.A. and Ali, M.S.M. (2019). Effects of Lid 1 Mutagenesis on Lid Displacement, Catalytic Performances and Thermostability of Cold-active *Pseudomonas* AMS8 Lipase in Toluene. *Computational and Structural Biotechnology Journal* 17, 215-228.
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63. Lim, Y.Y., Lee, W.K., Lim, P.E., Phang, S.M., Leow, T.C., Namasivayam, P., Abdullah, J.O. and Ho, C.L. (2019). Expression analysis of potential transcript and protein markers that are related to agar yield and gel strength in *Gracilaria changii* (Rhodophyta). *Algal Research* 41, 101532.
64. Ishak,S.N.H., Masomian, M., Kamarudin, N.H.A., Ali, M.S.M., Leow, T.C. and Rahman, R.N.Z.R.A. (2019). Changes of thermostability, organic solvent, and pH stability in *Geobacillus zalihae* HT1 and its mutant by calcium ion. *International Journal of Molecular Sciences 20(10)*, 2561.
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haloalkanes. *Sensor Review*
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69. Mazlan, S.N.H.S., Ali, M.S.M., Rahman, R.N.Z.R.A., Sabri, S., Jonet, M.A. and Leow, T.C. (2018). Crystallization and structure elucidation of GDSL esterase of *Photobacterium* sp. J15. *International Journal of Biological Macromolecules* 119, 1188-1194.
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71. Ang, T.F., Salleh, A.B., Normi, Y.M., Leow, T.C. (2018). In silico design of potentially functional artificial metallo-haloalkane dehalogenase containing catalytic zinc. *3 Biotech* 8 (7), 314.
72. Mohamed, R.A., Salleh, A.B., Leow, T.C., Yahaya, N.M., Rahman, M.B.A. (2018). Site-directed mutagenesis: role of lid region for T1 lipase specificity. *Protein Engineering, Design and Selection* 31 (6), 221-229.
73. Moi, I.M., Leow, T.C., Ali, M.S.M., Rahman, R.N.Z.R.A., Salleh, A.B., Sabri, S. (2018). Polyunsaturated fatty acids in marine bacteria and strategies to enhance their production. Applied microbiology and biotechnology, 102(14), 1-16.
74. Nurbaya, O.S., Bakar, A.B., Rahman, R.N.Z.R.A., Leow, T.C. and, Basri, M. (2018). Pichia Pastoris as a host to overexpress the thermostable T1 lipase from *Geobacillus zalihae*. *GSTF Journal of BioSciences* 3 (1).
75. Ang, T.F., Maiangwa, J., Salleh, A.B., N.M. Yahaya and, Leow, T.C. (2018). Dehalogenases: from improved performance to potential microbial dehalogenation applications. *Molecules* 23 (5), 1100.
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Books/Monographs	1. W.S. Tan, Abdullah, J.O., C.C. Sieo, N. Shafee, S. Mustafa, **A.T.C. Leow**, F. Jahanshiri, W.Z. Saad, C.C. Chin, M.N. Abd Wahab and Norhani, Abdullah. (2008). A Laboratory on Molecular Techniques For Identification Of Bacteria. Malaysia: UPM Press. (ISBN 978-983-44346-0-1) 2. M.B.A. Rahman, **A.T.C. Leow**, A.G.A. Aziz (2007). Structural Biology Research Report: The Effect of Conformation on Protein Function. Malaysia: UPM Press. (ISBN 978-967-5026-33-1)
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Conference/Proceedings	**International Conference/Proceeding** 1. Noordiyanah Nadhirah Roslan, **Adam Leow Thean Chor**, Siti NUrbaya Oslan, Syarul Nataqain Baharum and Suriana Sabri. "Genome sequence

	of Photobacterium sp. strain J15: an insight view for conservation genetics and molecular engineering" International Conference on Biodiversity and Conservation. 26-28th May 2015. Convention Hall, Sultan Idris Education University (UPSI). 2. Tan Soo Huei, Yahaya M. Normi, **Adam Thean Chor Leow**, Abu Bakar Salleh, Roghayeh Abedi Karjiban, Abdul Munir Abdul Murad and Mohd Basyaruddin Abdul Rahman. "Metallo-beta-lactamase like Ble1_2437 hypothetical protein revealed that Bacillus lehensis G1 alkaliphile is a potential superbug". 12th Asian Congress on Biotechnology 2015. 15-19th November 2015. Hotel Istana, Kuala Lumpur Malaysia. 3. Nasihah Musa, Yahaya M. Normi, **Adam Thean Chor Leow**, and Abu Bakar Salleh. "Structural and functional determination of CsoR copper sensor-like hypothetical protein from *Geobacillus zalihae"*. 12th Asian Congress on Biotechnology 2015. 15-19th November 2015. Hotel Istana, Kuala Lumpur Malaysia. 4. Thiau-Fu Ang, Yahaya M. Normi, Abu Bakar Salleh and **Adam Thean Chor Leow**. "Computational design of artificial metallo-haloalkane dehalogenase". 12th Asian Congress on Biotechnology 2015. 15-19th November 2015. Hotel Istana, Kuala Lumpur Malaysia. 5. Nurul Hazwani Daud, Abu Bakar Salleh, **Adam Thean Chor Leow** and Siti Nurbaya Oslan. "Mini protein designed of haloalkane dehalogenase". 12th Asian Congress on Biotechnology 2015. 15-19th November 2015. Hotel Istana, Kuala Lumpur Malaysia. 6. Sharifah Nur Hidayah Syed Mazlan, Mohd Shukuri Mohamad Ali, Raja Noor Zaliha Raja Abd Rahman, Suriana Sabri, **Adam Thean Chor Leow**. "Purification, crystallization and preliminary X-ray studies of GDSL esterase J15 from Photobacterium sp. J15". Asian Regional Conference on Systems Biology 2015. 8-9th Sep 2015. Hotel Bangi-Putrajaya, Bangi. 7. Roswanira Abdul Wahab, Mahiran Basri, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, Mohd Basyaruddin Abdul Rahman and **Adam Leow Thean Chor**. "An increase in hydrophobicity of the oxyanion Gln114 for an expedient development of a catalytic stable and competent lipase". ICEP2015: XIII International Conference on Education and Pedagogy 13-14th Apr 2015. Venice, Italy. 8. Raja Noor Zaliha Raja Abdul Rahman, Anas Norazaman, Mohd Shukuri Mohamad Ali, **Adam Leow Thean Chor** and Fairolniza Mohd Shariff. "Expression and characterization of novel DNA polymerase from Geobacillus sp strain SK72". International Conference on Environment, Industrial and Applied Microbiology – BioMicroWorld 2015. 28-30th Oct 2015. Barcelona, Spain. 9. Sayangku Nor Ariati Mohamad Aris, Gol Mohamada Dorrazehi, Mohd Shukuri Mohamad Ali, Raja Noor Zaliha Raja Abd Rahman, Abu Bakar Salleh, **Adam Leow Thean Chor**. "Characterization of riboflavin synthase from Photobacterium sp. J15 for the designing of anti-bacterial

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10. Raja Noor Zaliha Raja Abd Rahman, Sayangku Nor Ariati Mohamad Aris, **Adam Leow Thean Chor**, Mohd Shukuri Mohamad Ali, Mahiran Basri, and Abu Bakar Salleh. "Improvements in thermostable T1 lipase protein crystal through microgravity growth". The 40th Lorne Conference on Protein Structure and Function. 8-12th Feb 2015. Mantra Lorne, Lorne Victoria, Australia.

11. Mohd Shukuri Mohamad Ali, Raja Noor Zaliha Raja Abd Rahman, **Adam Leow Thean Chor**, Siti Farhana Mohd Fuzi, Abu Bakar Salleh and Mahiran Basri."Molecular basis of cold adaptation of *Pseudomonas* I.3 lipase revealed via in silico approaches. The 40th Lorne Conference on Protein Structure and Function. 8-12th Feb 2015. Mantra Lorne, Lorne Victoria, Australia.

12. Raja Noor Zaliha Raja Abd Rahman, Nor Hafizah Ahmad Kamarudin, Mohd Shukuri Mohamad Ali, **Adam Leow Thean Chor**, Mahiran Basri, and Abu Bakar Salleh. "AT2 lipase: A new cold-adapted organic solvent stable enzyme from mesophilic *Staphylococcus epidermidis*". The 41st Congress on Science and Technology of Thailand. 6-8th Nov 2015. Nakhon Ratchasima, Thailand.

13. Siti Nurbaya Oslan, Raja Noor Zaliha Raja Abd Rahman, **Leow Thean Chor**, Mahiran Basri, and Abu Bakar Salleh. "Development of newly isolated yeast as an expression host" UPM-Kyutech MSSC Seminar-International Research Collaboration. 5-6 March 2015, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia.

14. Nor Hafizah Ahmad Kamarudin, Raja Noor Zaliha Raja Abd Rahman, Mohd Shukuri Mohamad Ali, **Adam Leow Thean Chor**, Mahiran Basri, and Abu Bakar Salleh. "Deletion of C-terminal tail extension improves the stability of cold-adapted lipase from mesophilic *Staphylococcus epidermidis* AT2". International Congress of the Malaysian Society for Microbiology 2015. 7-10th Dec 2015. Penang, Malaysia.

15. Aris, S. N. A. M., Rahman, M. Z. A., Ali, M. S. M., Rahman, R. N. Z. R. A., Salleh, A. B. and **Leow, T. C.** "Structure based ligand discovery for inhibiting riboflavin synthase from *Leptospira*". The 4th International Conference on Computation for Science and Technology 2016. 4-5th Nov 2016. Langkawi, Malaysia.

National Conference/Proceeding

1. Fatin Lyana Azman Shah, Ku Nurul Aqmar Ku Bahaudin, **Adam Thean Chor Leow**, Siti Nurbaya Roslan, Hoe Han Goh, Syarul Nataqain Baharum, Normah Mohd Noor and Suriana Sabri. Cloning and expression of chalcone synthase and chalcone isomerase enzymes from *Polygonum minus* in *Saccharomyces cerevisae* for flavonoid production. 33rd Symposium of the Malaysian Society for Microbiology 2016. 14-

	17th December 2016. Ramada Plaza Melaka, Malaysia. 2. Noordiyanah Nadhirah Roslan, Suriana Sabri, Siti Nurbaya Oslan, Syarul Nataqain Baharum and **Adam Leow Thean Chor**. Distinctive carbon and nitrogen metabolism in *Photobacterium* sp. strain J15 isolated from Tanjung Pelepas, Johor. 33rd Symposium of the Malaysian Society for Microbiology 2016. 14-17th December 2016. Ramada Plaza Melaka, Malaysia. 3. Suriana Sabri, Noordiyanah Nadhirah Roslan, Siti Nurbaya Oslan, Syarul Nataqain Baharum, Yalun Arifin and **Adam Leow Thean Chor**. Genome-scale metabolic model of *Photobacterium* sp. strain J15. 33rd Symposium of the Malaysian Society for Microbiology 2016. 14-17th December 2016. Ramada Plaza Melaka, Malaysia. 4. Nurul Syawani Mohamad Nasir, Abu Bakar Salleh, **Adam Leow Thean Chor** and Siti Nurbaya Oslan. The expression of α-amylase in newly isolated yeast. 33rd Symposium of the Malaysian Society for Microbiology 2016. 14-17th December 2016. Ramada Plaza Melaka, Malaysia. 5. Jonathan Maiangwa, Mohd Shukuri Mohamad Ali, Abu Bakar Salleh, Raja Noor Zaliha Raja Abd Rahman, Fairolniza Mohd Shariff and **Thean Chor Leow**. Insight into instability of T1 lipase in methanol. 33rd Symposium of the Malaysian Society for Microbiology 2016. 14-17th December 2016. Ramada Plaza Melaka, Malaysia.
Other publications *(Patents)*	**Patent Granted:** **Granted – Malaysian Patent** 1. Novel *Geobacillus* microorganism, 28th November 2008, Malaysian Patent No: **MY-136932-A** **Granted – Oversea Patent** 1. Method for Crystallizing *Geobacillus* Strain T1 Polypeptide, 30th December 2014, US Patent No. **US8920558** 2. Method for Producing a Recombinant Thermostable *Geobacillus* T1 Lipase, 19th November 2008, European Patent No. **EP-DK 1 624 056** 3. Lipase from *Geobacillus* sp. Strain T1, 29th July 2005, US Patent No. **US7319029B2** **Pending – Malaysian Patent** 1. Use of a Newly Isolated Yeast in the Expression of Recombinant Proteins, 30th October 2012, Malaysian Patent Application No: **PI2012700845** 2. Use a small domain of T1 lipase as a protein scaffold, 26th Aug 2012,

	Malaysian Patent Application No: **PI2012700578 (Corresponding author)** 3. Purified T1 lipase, a novel Construct of T1 lipase and Methods Thereof, 9th November 2011, Malaysian Patent Application No: **PI 2011700160** 4. Crystal Growth under Microgravity Condition, 10thDecember 2008, Malaysian Patent Application No: **PI 20084994** 5. Crystallization of Enzyme and Method for Producing Same, 21st June 2006, Malaysian Patent Application No: **PI20062931** **Pending – Oversea Patent** 1. Use of a Newly Isolated Yeast in the Expression of Recombinant Proteins, 29th October 2013, PCT Patent Application No: **PCT/MY2013/000188.** 2. Crystal Growth under Microgravity Condition, 31st March 2009, US Patent Application No: **12/415,437** 3. Crystallization of Enzyme and Method for Producing Same, 1st May 2008, U.S Patent Application No: **12/424,897** 4. Novel *Geobacillus* Microorganism, 2nd August 2005, Japanese Patent Application No: **2995-223872**

G. PROJEK PENYELIDIKAN TERDAHULU*(Past Research Project)*				
Project Title	***Role***	***Year***	***Source of fund***	***Status***
Ancestral sequence reconstruction of phytase for the poultry feed industry	Leader	Sept 2024 – Aug 2027	GP-Fast Track	Ongoing
Screening and isolation of key enzymes for industrial and agricultural applications	Leader	Sept 2024 – Aug 2025	GPI	Ongoing
Molecular expression and characterization of plastics degrading enzyme PETase from marine organism	Leader	Dec 2023 - Nov 2025	GP-IPS	Ongoing
Insights into folding and methanol-induced inactivation of Photobacterium marinum lipase (PML) for the redesigning of methanol stable lipase variants	Leader	Sept 2019 - May 2023	FRGS	Completed
Unveil GDSL-substrate complex in understanding the selectivity of a novel GDSL esterase on small substrate	Leader	Feb 2018 - Aug 2020	UPM	Completed
Solvent stability studies and development of solvent tolerant thermostable T1 lipase	Leader	Jun 2017 - May 2019	UPM	Completed
Investigating the expression of recombinant protein under alcohol oxidase promoter without methanol induction in locally isolated yeast	Member	Dec 2014 - Nov 2017	MOHE	Completed
Understanding the whole metabolism of *Photobacterium* sp. by development of genome scale model for production of	Member	Dec 2014 - Nov 2017	MOHE	Completed

docosahexanoic acid (DHA)				
Molecular and structural studies on foldase activity and chaperone function of FKBP35 from *Plasmodium knowlesi*	Member	Dec 2014 - Nov 2017	MOHE	Completed
Development of an Optical Fiber based Biosensor Network for Remote Multipoint Continuous Detection of River Pollutants	Member	Dec 2013 – Dec 2015	UPM	Completed
Increasing Flavonoid Production in *Lactococcus lactis* through Metabolic Flux Analysis	Member	Jun 2013 – Nov 2015	MOSTI	Completed
Miniature haloalkane dehalogenase for cleaving carbon-halogen bond	Leader	Jun 2013 – Nov 2015	MOHE	Completed
Isolation of bromelain from pineapple wastes and evaluation of bromelain and chemo drug synergistic interaction on human breast cancer spheroids	Member	Sep 2012 – Aug 2014	MOHE	Completed
Discovering lipase inhibitory compounds from Malaysian plants for Obesity treatment	Member	Aug 2012 – Jul 2015	MOHE	Completed
Conserved structural features of galactosyltransferases from an agar producing seaweed, Gracilaria changii	Member	May 2012 – Apr 2014	MOHE	Completed
Unravelling riboflavin synthase of *Photobacterium* sp. Strain J15 for designing of potential anti-bacterial drug	Leader	May 2012 – Apr 2013	MOSTI	Completed
Dissecting the role and function of a putative multifunctional protein	Member	Jan 2012 – Dec 2013	MOSTI	Completed
Enzyme mimicking: A novel peptide that mimics diamine oxidase	Member	Sept 2011 – Sept 2014	MOSTI	Completed
Chimeric Lipase for Understanding of The Role of Key Residues Governing pH Profiles	Leader	Oct 2010 – Sept 2012	MOHE	Completed
Conformational Design of Cyclic Lipase for Understanding of Folding and Stability	Member	Apr 2010 – Mar 2012	MOHE	Completed
Expression of Staphylococcus lipase via molecular approach	Leader	Jul 2009 – Jun 2010	RUGS	Completed
Designer Biocatalysts for Sustainable Processes in the Conversion of Renewable Raw Materials to Platform Chemical (GC1 – Rational Design of Nascent Metalloenzymes)	Leader	Apr 2009 – Mar 2012	MOSTI	Completed
Protein Engineering of T1 Lipase in Modulating pH Profiles	Leader	Jan 2009 – Dec 2010	MOHE	Completed
Molecular analyses of secreted proteins from plant cells grown in suspension cultures	Member	Nov 2008 – Oct 2010	MOHE	Completed
Production of a new Novel thermostable lipase for industrial application	Member	Mar 2008 – Sep 2011	MTDC	Completed

I. PENYELIAAN *(Supervision)*		
Category	**SUPERVISOR**	
	Current Student	**Graduate**

	PhD	*Master*	*Total*	*PhD*	*Master*	*Total*
Chairman	*1*	*3*	*4*	*3*	*11*	*14*
Member	*11*	*1*	*12*	*16*	*34*	*50*
Total	*12*	*4*	*16*	*19*	*45*	*64*

J. PEMERIKSA TESIS *(Thesis examiner)*			
PhD		**Sarjana**	
Pemeriksa Dalam	**Pemeriksa Luar**	**Pemeriksa Dalam**	**Pemeriksa Luar**
6	6	23	8

K. PENGERUSI VIVA *(Viva chairman)*	
PhD	**MSc**
0	6