



**Min-Tze LIONG (Ph.D.)**

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## ACADEMIC AND PROFESSIONAL QUALIFICATIONS

| Year | Degree               | Discipline                   | University                                |
|------|----------------------|------------------------------|---|
| 2001 | B.Sc. (Tech.) (Hons) | Food Technology              | USM, Penang                               |
| 2003 | M.Sc. (Tech.)        | Food Biotechnology           | USM, Penang                               |
| 2006 | Ph.D.                | Food Microbiology and Safety | Victoria University, Melbourne, Australia |

## WORK EXPERIENCE

| Year         | Position                 | Field of Work       | Place of Work                             |
|--------------|--------------------------|---------------------|---|
| 2001         | Pathologist              | Laboratory Analyses | BP Lab, Penang                            |
| 2004-2006    | Graduate Assistant       | Tutoring            | Victoria University, Melbourne, Australia |
| 2006-2008    | Lecturer DS45            | Academic, research  | USM, Penang                               |
| 2008-2010    | Senior Lecturer DS52     | Academic, research  | USM, Penang                               |
| 2010-2015    | Associate Professor DS54 | Academic, research  | USM, Penang                               |
| 2015-current | Professor VK7            | Academic, research  | USM, Penang                               |

## MAIN CURRENT RESEARCH AREAS

1. Development of probiotics as nutraceuticals via human clinical studies.
2. Health potentials of bioactives from probiotics.

## PUBLICATIONS

### Journals

#### Human Clinical Studies

1. Ooi, LG, Rosma, A, Bhat, R, Yuen, KH and Liong, MT. 2010. A symbiotic containing *Lactobacillus acidophilus* CHO-220 and inulin improves irregularity of RBC. **J Dairy Sci** 93: 4535-4544
2. Ooi, LG, Rosma, A, Yuen, KH and Liong, MT. 2010. *L. acidophilus* CHO-220 and inulin reduced plasma total-cholesterol and LDL-cholesterol via alteration of lipid transporters. **J Dairy Sci** 93: 5048-5058
3. Lau ASE, Mitsuyama E, Odamaki T, Xiao JZ, Liong MT. 2019. El Niño altered gut microbiota of children: A new insight on weather-gut interactions and protective effects of probiotic. **J Medic Foods** 22: 230-240.
4. Lau, ASE, Yusoff MSB, Lee YY, Choi SB, Xiao JZ, Liong MT. 2018. Development & Validation of Chinese Translated Questionnaires: A Single Simultaneous Tool for Assessing Gastrointestinal, Upper Respiratory-related Illnesses in Pre-school Children. **J Taibah Uni Med Sci** 13: 135-141



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5. Lau, ASE, Yanagisawa, N, Hor YY, Lew LC, Ong JS, Chuah LO, Lee YY, Choi SB, Rashid F, Wahid N, Suguhara H, Xiao JZ, Liong MT. 2017. *Bifidobacterium longum* BB536 alleviated upper respiratory illnesses and modulated gut microbiota profiles in Malaysian pre-school children. **Beneficial Microbes** 29: 61-70.
6. Yusof N, Hamid N, Ma ZF, Lawenko RM, Wan Mohammad WMZ, Collins DA, Liong MT, Odamaki T, Xiao JZ and Lee YY. 2017. Exposure to environmental microbiota explains persistent abdominal pain and irritable bowel syndrome after a major food. **Gut Pathog.** 9, 75-85
7. Lau, ASE, Yusoff MSB, Lee YY, Choi SB, Rashid F, Wahid N, Xiao JZ, Liong MT. 2017. 2017 Development, Translation and Validation of Malay Questionnaires for Diarrhea and Respiratory-related Illnesses during Probiotic Administration in Children. **Edu in Med J.** 9: 19-30
8. Chong HX, Yusoff NAA, Hor YY, Lew LC, MH Jaafar, Choi SB, Yusoff MSB, N Wahid, MFIL Abdullah, N Zakaria, Ong KL, Park YH, Liong, MT. 2019. *Lactobacillus plantarum* DR7 alleviates stress and anxiety in adults: a randomised, double-blind, placebo-controlled study. **Ben. Microbes.** 10: 355-373.
9. Chong HX, Yusoff NAA, Hor YY, Lew LC, MH Jaafar, Choi SB, Yusoff MSB, N Wahid, MFIL Abdullah, N Zakaria, Ong KL, Park YH, Liong, MT. 2019. *Lactobacillus plantarum* DR7 improved upper respiratory tract infections via enhancing immune and inflammatory parameters: A randomised, double-blind, placebo-controlled study. **J Dairy Sci.** 102: 4783-4797
10. Liu YW, Liong MT, Chung YC, Huang HY, Peng WS, Cheng YF, Lin YS, Wu YY, Tsai YC. 2019. Effects of *Lactobacillus plantarum* PS128 on children with autism spectrum disorder in Taiwan: A randomized, double-blind, placebo-controlled. **Nutrients.** 11: 820
11. Wang MC, Amir-Hamzah AIZ, Lin WH, Lin JS, Liong MT, Wu JJ. 2020. Probiotics from kefir improve gastrointestinal health parameters in adults: A randomised, single-blind, placebo-controlled study. **Probiotics Antimicrob Proteins.** 12: 840-850
12. Q He, Q Hou, Y Wang, L Shen, Z Sun, He Zhang, MT Liong, LY Kwok. 2019. Long-term administration of *Lactobacillus casei* Zhang stabilized gut microbiota of adults and reduced gut microbiota age index of older adults. **J Func Foods** 64: 103682
13. Khine WWT, Zhang Y, Goie GJY, Wong MS, Liong MT, Lee YY, Cao H, Lee YK. 2019. Gut microbiome of pre-adolescent children of two ethnicities residing in three distant cities. **Sci Rep.** 9: 7831
14. Ma ZF, Yusof N, Hamid N, Lawenko RM, Wan Mohammad WMZ, Liong MT, Suguhara H, Odamaki T, Xiao JZ, Lee YY. 2019. *Bifidobacterium infantis* M-63 improves mental health in victims with irritable bowel syndrome developed after a major flood disaster. **Ben. Microbes** 10: 1111-1120
15. Lew LC, Hor YY, Yusoff NAA, Choi SB, Yusoff MSB, Roslan NS, Ahmad A, Mohammad JAM, Abdullah MFIL, Zakaria N, Wahid N, Sun Z, Kwok LY, Zhang H, Liong MT. 2018. Probiotic *Lactobacillus plantarum* P8 alleviated stress and anxiety while enhancing memory and cognition in stressed adults: A randomised, double-blind, placebo-controlled study. **Clinical Nutr** S0261-5614(18): 32448-8.
16. Hor YY, Lew LC, Lau ASE, Ong JS, Chuah LO, Lee YY, Choi SB, Wahid, N, Sun ZH, Kwok LY, Zhang HP, MT Liong. 2018. Probiotic *Lactobacillus casei* Zhang (LCZ) alleviates respiratory, gastrointestinal & RBC abnormality via immuno-modulatory, anti-inflammatory & anti-oxidative actions. **J Func Foods** 44: 235-245
17. Liu GX, Chong HX, Chung YLF, Li Y, Liong MT. 2020. *Lactobacillus plantarum* DR7 Modulated Bowel Movement and Gut Microbiota Associated with Dopamine and Serotonin Pathways in Stressed Adults. **Int J Mol Sci.** 21: 4608-4614.
18. Ma T, Jin H, Kwok L-Y, Sun Z, Liong MT, Zhang H. 2021. Probiotic consumption relieved human stress and anxiety symptoms possibly via modulating the neuroactive potential of the gut microbiota. **Neurobiology of Stress,** 14: 100294.
19. Altadill T, Espadaler J, Liong MT. 2021. Effects of a lactobacilli probiotic on reducing duration of URTI and fever, and use of URTI-associated medicine: A re-analysis of a randomized, placebo-controlled study. **Microorganisms.** 9: 528.
20. Ang XY, Chung FCL, Lee BK, Azhar SNA, Sany S, Roslan NS, Ahmad N, Yusof SM, Abdullah N, Nik Ab Rahman NN, Abdul Wahid N, Deris ZZ, Oon CE, Wan Adnan WF, Liong MT. 2021. Lactobacilli Probiotics Reduce Recurrences of Vaginal Candidiasis in Pregnant Women: A Randomized, Double-Blind, Placebo-Controlled Study. **J Appl Microbiol** Accepted.
21. Mageswary MU, Ang XY, Lee BK, Chung YL, Azhar SNA, Hamid IJA, Bakar HA, Roslan NS, Liu XJ, Kang XH, Dai L, Sreenivasan S, Taib F, Zhang HP, Liong MT. 2021. Probiotic *Bifidobacterium lactis* PROBIO-M8 Treated and Prevented Acute RTI, Reduced Antibiotic Use and Hospital Stay in Hospitalized Young Children: A Randomized, Double-Blind, Placebo-Controlled Study. **Eur J Nutr,** Accepted.



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### Animal Studies

1. Liong, MT and Shah, NP. 2006. Effects of a *Lactobacillus casei* symbiotic on serum lipoprotein, intestinal microflora and organic acids in rats. **J Dairy Sci** 89: 1390-1399.
2. Liong, MT and Shah, NP. 2006. Sorbitol, maltodextrin, inulin and *Bifidobacterium infantis* modify serum lipid profiles, intestinal microbial population and organic acids concentration in rats. **Int J Probiotics Prebiotics** 1:121-130.
3. Liong, MT, Dunshea, FR and Shah, NP. 2007. Effects of a synbiotic containing *Lactobacillus acidophilus* ATCC 4962 on plasma lipid profiles and morphology of erythrocytes in hypercholesterolaemic pigs on high- and low-fat diets. **Bri J Nutr** 98: 736-744.
4. Liong, MT and Shah, NP. 2008. Synbiotic effects of *Lactobacillus acidophilus* ATCC 4962, fructooligosaccharide, mannitol and inulin on serum lipid profiles, intestinal lactobacilli population and intestinal organic acids concentration in rats. **Milchwissenschaft** 63:196-199.
5. Park, YH, Hamidon, F, Rajangan C, Soh, KP, Gan, CY, Lim TS, Wan Abdullah, WA, Liong, MT. 2016. Application of probiotics for the production of safe and high-quality poultry meat. **Korean J Food Sci Anim Resour.** 36: 567-576
6. Lye HS, Ohno H, Low WY, Taylor TD, Prakash T, Kato T, Lew LC, MT Liong. 2017. *Lactobacillus fermentum* FTDC 8312 combats hypercholesterolemia via alteration of gut microbiota. **J Biotechnol** 262: 75-83.
7. Hor YY, Ooi Ch, Khoo BY, Choi SB, Seeni A, Shamsuddin S, Oon CE, Ong KL, Jeong WS, Liong MT. 2019. *Lactobacillus* strains alleviated aging symptoms and aging-induced metabolic disorders in aged rats. **J Medicinal Food** 22: 1-13.
8. Ong JS, Taylor TD, Yong CC, Khoo BY, Sasidharan S, Choi SB, Ohno H, Liong MT. 2020. *Lactobacillus plantarum* USM8613 aids in wound healing and suppresses *Staphylococcus aureus* infection at wound sites. **Probiotics Antimicrob Proteins.** 12: 125-137
9. Hsu CC, Liong MT, Tsa YC. 2019. *Lactobacillus paracasei* PS23 reduced early-life stress abnormalities in maternal separation mouse model. **Ben. Microbes** 10:425-436.
10. Lew LC, Hor YY, Jaafar MH, Lau ASE, Choi SB, Khoo BY, Sasidharan S, Ong KL, Kato T, Nakanishi Y, Ohno H, Liong MT. 2020. Effects of potential probiotic strains on the fecal microbiota and metabolites of D-galactose induced ageing rats fed with high fat diet. **Probiotics Antimicrob Proteins** 12: 545-562
11. Liu YW, Ong JS, Gan CY, Khoo BY, Yahaya S, Choib SB, Low WY, Tsai YC, Liong MT. 2019. *Lactobacillus fermentum* PS150 Showed Psychotropic Properties by Altering Serotonergic Pathway During Stress. **J Func Food** 59: 352-361.
12. Lew LC, Hor YY, Jaafar MH, Lay ASE, Ong JS, Chuah LO, Yap KP, Ghows A, Azali A, Liong MT. 2019. Lactobacilli modulated AMPK activity and prevented telomere shortening in ageing rats. **Ben. Microbes** 10: 883-892.
13. Hor YY, Lew LC, Jaafar MH, Lau ASY, Ong JS, Kato T, Nakanishi Y, Ghows A, Azlan A, Ohno H, Liong MT. 2019. *Lactobacillus* sp. improved microbiota and metabolite profiles of aging rats. **Pharmacologic Res.** 146: 104312.
14. Tan F, Liu GX, Lau ASE, Jaafar MH, Liong MT, Ghows A, Park YH, Li Y. 2020. *Lactobacillus* probiotics improved the gut microbiota profile of a *Drosophila melanogaster* Alzheimer's disease model and alleviated neurodegeneration in the eye. **Beneficial Microbes.** 11: 79-89.
15. Hor YY, Ooi CH, Lew LC, Jaafar MH, Lau ASY, Lee BK, Ghows A, Azlan A, Liong MT. 2021. The molecular mechanisms of probiotic strains in promoting healthy aging on the bone and muscle of D-galactose-induced aging rats. **J Appl Microbiol.** 130: 1307-1322.
16. Zaydi AI, Lew LC, Hor YY, Jaafar MH, Lau ASE, Ong JS, Chuah LO, Yap KP, Azlan A, Ghows A, Choi SB, Ong KL, Liong MT. 2020. *Lactobacillus plantarum* DR7 improved memory and anxiety in aging rats via the serotonin pathway. **Beneficial Microbes** 11: 753-766
17. Lew LC, Hor YY, Jaafar MH, Lau ASE, Lee BK, Ong JS, Chuah LO, Yap KP, Azlan A, Ghows A, Choi SB, Liong MT. 2020. *Lactobacillus* strains alleviated hyperlipidemia and liver steatosis in aging rats via activation of AMPK. **Int J Mol Sci.** 21: 5872
18. Liu GX, Tan FHP, Lau ASY, Jaafar MH, Chung FYL, Azzam G, Liong MT, Li Y. 2021. Lactic acid bacteria feeding reversed the malformed eye structures and ameliorated gut microbiota profiles of *Drosophila melanogaster* Alzheimer's Disease model. **J Appl Microbiol.** In- press



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<https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos>

### In-vitro studies & Review

1. Rosma, A, Liong, MT, Mohd Azemi, MN and Wan Nadiyah, WA. 2005. Optimization of single cell protein production by *Candida utilis* using juice extracted from pineapple waste through response surface methodology. **Malaysian J Microbiol** 1: 18-24.
2. Liong, MT and Shah, NP. 2005. Bile salt deconjugation and BSH activity of five bifidobacterial strains and their cholesterol co-precipitating properties. **Food Res Int** 38: 135-142.
3. Liong, MT and Shah, NP. 2005. Acid and bile tolerance and cholesterol removal ability of lactobacilli strains. **J Dairy Sci** 88: 55-66.
4. Liong, MT and Shah, NP. 2005. Bile salt deconjugation ability, bile salt hydrolase activity and cholesterol co-precipitation ability of lactobacilli strains. **Int Dairy J** 15: 391-398.
5. Liong, MT and Shah, NP. 2005. Acid and bile tolerance and the cholesterol removal ability of bifidobacteria strains. **Biosci Microflora** 24: 1-10.
6. Liong, MT and Shah, NP. 2005. Optimization of cholesterol removal by probiotics in the presence of prebiotics by using response surface method. **Appl Environ Microbiol** 71: 1745-1753.
7. Liong, MT and Shah, NP. 2005. Optimization of growth of *Lactobacillus casei* ATCC 292 and production of organic acids in the presence of fructooligosaccharide and maltodextrin. **J Food Sci** 70: M113-M120.
8. Liong, MT and Shah, NP. 2005. Optimization of cholesterol removal, growth and fermentation patterns of *Lactobacillus acidophilus* ATCC 4962 in presence of mannitol, FOS and inulin: a response surface methodology approach. **J Appl Microbiol** 98: 1115-1126.
9. Liong, MT and Shah, NP. 2005. Production of organic acids from fermentation of mannitol, FOS and inulin by a cholesterol removing *Lactobacillus acidophilus* strain. **J Appl Microbiol** 99: 783-793.
10. Liong, MT and Shah, NP. 2006. Roles of probiotics and prebiotics on cholesterol: the hypothesized mechanisms. **Nutrafoods** 4: 45-57.
11. Liong, MT and Shah, NP. 2006. The application of response surface methodology to optimize removal of cholesterol, and to evaluate growth characteristics and production of organic acids by *Bifidobacterium infantis* ATCC 17930 in the presence of prebiotics. **Int J Probiotics Prebiotics** 1: 41-56.
12. Liong, MT. 2007. Probiotics: A critical review of their potential role as antihypertensives, immune modulators, hypocholesterolemics, and perimenopausal treatments. **Nutr Rev** 65: 316-328.
13. Liong, MT. 2008. A critical review of: Safety of probiotics: translocation and infection. **Nutr Rev** 66: 192-202.
14. Liong, MT. 2008. Roles of probiotics and prebiotics in colonic cancer prevention: Postulated mechanisms and in-vivo evidence. **Int J Mol Sci** 9: 854-863.
15. Zulkurnain, M, Goh, MH, Karim, AA and Liong, MT. 2008. Development of a soy-based cream cheese. **J Texture Stud** 39: 635-654.
16. Ng, KH, Lye, HS, Easa, AM and Liong, MT. 2008. Growth characteristics and bioactivity of probiotics in tofu-based medium during storage. **Annal Microbiol** 58: 477-487.
17. Fung, WY, Woo, YP, and Liong, MT. 2008. Optimization of Growth of *Lactobacillus acidophilus* FTCC 0291 and evaluation of growth characteristics in soy whey medium: a response surface methodology approach. **J Agri Food Chem** 56: 7910-7918.
18. Kuan, YH and Liong, MT. 2008. Chemical and physicochemical characterization of agrowaste fibrous materials and residues. **J Agri Food Chem** 56: 9252 - 9257.
19. Fung, WY, Woo, YP, Wan Nadiyah, WA, Rosma, A, Easa, AM and Liong, MT. 2009. Benefits of probiotics: Beyond gastrointestinal health. **Milchwissenschaft** 64:17-21.
20. Woo, YP, Fung, WY, Easa, AM and Liong, MT. 2009. Probiotic-fermented soyfoods: Benefits and enhanced bioactivities. **Acta Alimentaria Hung** 38: 381-391.
21. Liong, MT, Easa, AM, Lim, PT and Kang, JY. 2009. Survival, growth characteristics and bioactive potential of *Lactobacillus acidophilus* in a soy-based cream cheese. **J Sci Food Agri** 89: 1382-1391.
22. Goh, TB, Liong, MT and Easa, AM. 2009. Using soy protein isolate-glucose edible films to protect fish oil from lipid oxidation. **Asian J Food Agro-Industry**. 2: 342-350
23. Yeo, SK, Ooi, LG, Lim, TJ and Liong, MT. 2009. Antihypertensive properties of plant-based prebiotics. **Int J Mol Sci** 10: 3517-3530
24. Lye, HS, Kuan, CY, Ewe, JA, Fung, WY and Liong, MT. 2009. The improvement of hypertension by probiotics: effects on cholesterol, diabetes, renin and phytoestrogens. **Int J Mol Sci** 10: 3755-3775
25. Ewe, JA, Wan Nadiyah, WA and Liong, MT. 2010. Viability and Growth Characteristics of *Lactobacillus* in Soymilk Supplemented with B-vitamins. **Int J Food Sci Nutr** 61: 87-107



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26. Yeo, SK and Liong, MT. 2010. Angiotensin I-converting enzyme Inhibitory Activity and Bioconversion of Isoflavones by Lactobacilli and Bifidobacteria in Soymilk Supplemented with Prebiotics. **Int J Food Sci Nutr**: 61 (2): 161-181.
27. Teh, SS, Rosma, A, Wan Nadiah, WA and Liong, MT. 2009. Evaluations of Agrowastes as Immobilizers for Probiotics in Soymilk. **J Agri Food Chem** 57: 10187-10198.
28. Yeo, SK and Liong, MT. 2010. Effect of prebiotics on viability and growth characteristics of probiotics in soymilk. **J Sci Food Agri** 90: 267-275.
29. Lye, HS, Gulam, R and Liong, MT. 2010. Mechanisms of cholesterol removal by lactobacilli under conditions that mimic the human gastrointestinal tract. **Int Dairy J** 20: 169-175
30. Wong, WW, Abbas FMA, Liong, MT, and Easa, AM. 2008. Technical-Short Communication Modification of Durian Rind Pectin for Improved Biosorbent Ability. **Int Food Res J** 15.
31. Abbas, FMA, Foroogh, B, Liong, MT and Easa, AM. 2008. Multivariate statistical analysis of antioxidant in dates (*Phoenix. dactylifera*) **Int Food Res J** 15: 193-200.
32. Rosma, A, Afiza, TS, Wan Nadiah, WA, Liong, MT and Gulam, RRA. 2009. Microbiological, histamine and 3-MCPD contents of Malaysian unprocessed 'budu'. **Int Food Res J** 16: 589-594.
33. Fung, WY and Liong, MT. 2009. Evaluation of proteolytic and ACE-inhibitory activity of *Lactobacillus acidophilus* in soy whey growth medium via response surface methodology. **LWT Food Sci Technol** 1-5.
34. Ramli, S, Abbas, FMA, Yeoh, SY, Liong, MT and Easa, AM. 2009. Effect of banana pulp and peel flour on physicochemical properties and *in vitro* starch digestibility of yellow alkaline noodles. **Int J Food Sci Nutr** 60: 326-340.
35. Ooi, LG and Liong, MT. 2010. Cholesterol-lowering effects of probiotics and prebiotics: A review of *in vivo* and *in vitro* findings. **Int J Mol Sci** 11: 2499-2522
36. Lye, HS, Gulam, R and Liong, MT. 2010. Removal of Cholesterol by Lactobacilli via Incorporation and Conversion to Coprostanol. **J Dairy Sci** 93: 1383-1392
37. Teh, SS, Bhat, R, Rosma, A, Wan Nadiah, WA and Liong, MT. 2010. Growth Characteristics of Agrowastes-Immobilized Lactobacilli in Soymilk during Refrigerated Storage. **Int J Food Sci Tech** 45: 2089-2095
38. Teh, SS, Rosma, A, Wan Nadiah, WA and Liong, MT. 2010. Enhanced Growth of Lactobacilli in Soymilk upon Immobilization on Agrowastes. **J Food Sci** 75: M155-M164(1)
39. Fung, WY, Yuen, KH and Liong, MT. 2010. Characterization of fibrous residues from agrowastes and the production of nanofibers. **J Agri Food Chem** 58: 8077-8084
40. Ewe, JA, Wan Nadiah, WA, Karim, AA, Bhat, R and Liong, MT. 2011. ACE inhibitory activity and bioconversion of isoflavones by *Lactobacillus* in Soymilk Supplemented with B-vitamins. **Bri Food J** 113: 1127-1146
41. Lim, TJ, Easa, AM, Karim, AA, Bhat, R and Liong, MT. 2011. Development of Soy-based Cream Cheese via the Addition of Microbial Transglutaminase, Soy Protein Isolate and Maltodextrin. **Bri Food J** 113: 1147-1172
42. Ooi, LG, Rosma, A, Yuen, KH and Liong, MT. 2011. Hypocholesterolemic effects of probiotic-fermented dairy products. **Milchwissenschaft** 66: 129-132
43. Kuan, CY, Fung, WY, Yuen, KH and Liong, MT. 2012. Nanotech: Propensity in Foods and Pharmaceuticals. **Cri Rev Food Sci Nutr** 52: 55-71
44. Voon, HC, Bhat, R, Easa, AM, Liong, MT and Karim, AA. 2012. Effect of Addition of Halloysite Nanoclay and SiO<sub>2</sub> Nanoparticles on Barrier and Mechanical Properties of Bovine Gelatin Films. **Food Bioprocess Technol** 5:1766-1774
45. Yeo, SK and Liong, MT. 2011. Effect of Ultrasound on the Growth of Probiotics and Bioconversion of Isoflavones in Prebiotic-Supplemented Soymilk. **J Agri Food Chem** 59: 885-897.
46. Yew, SE, Lim, TJ, Lew, LC, Bhat, R, Easa, MA and Liong, MT. 2011. Development of a probiotic delivery system from agrowastes, soy protein isolate and microbial transglutaminase. **J Food Sci** 76: H108-H115.
47. Lew, LC, Bhat, R, Easa, MA, and Liong, MT. 2011. Development of probiotic carriers using microbial transglutaminase cross-linked soy protein isolate incorporated with agrowastes. **J Sci Food Agri** 91: 1406-1415
48. Bhat, R, Suhaida, A, Han, CV, Karim A.A. and Liong, MT. 2011 Quality attributes of starfruit (*Averrhoa carambola L.*) juice treated with ultraviolet radiation. **Food Chem** 127: 641-644
49. Lye, HS, Gulam, R, Karim, AA and Liong, MT. 2011. Electroporation enhances the ability of lactobacilli to remove cholesterol. **J Dairy Sci** 94: 4820-4830.
50. Kuan, CY, Yuen, KH, Bhat, R and Liong, MT. 2011. Physicochemical characterization of alkali treated fractions from corncob and wheat straw and the production of nanofibres. **Food Res Int** 44: 2822-2829
51. Bhat, R, Liong, MT, Abdorreza MN and Karim AA. 2013. Evaluation of Free Radical Scavenging Activity and Antioxidant Potential of a Few Popular Green Leafy Vegetables of Malaysia. **Int J Food Properties** 16: 1371-1379.



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52. Foo, WT, Yew, HS, Liong, MT and Easa, MA. 2011. Influence of formulations on textural, mechanical and structural breakdown properties of cooked yellow alkaline noodles. **Int Food Res J** 18: 1295-1301
53. Bhat, R, Che-Kamaruddin, NS, Liong, MT and Karim, AA. 2011. Sonication improves Kasturi lime (*Citrus microcarpa*) juice quality. **Ultrasonics Sonochem** 18: 1295-1300
54. Suguna, M, Wan-Nadiah, WA, Liong, MT and Bhat, R. 2011. Microbial safety of street vended and laboratory prepared Pitaya (Dragon-fruit) fruit juices from Penang state, Malaysia. **Int Food Res J** 18:1509-1513
55. Fung, WY, Yuen, KH and Liong, MT. 2011 Agrowaste-based nanofibers as probiotic-encapsulant: Fabrication and characterization. **J Agri Food Chem** 59: 8140–8147.
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Chapters In Research Books





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|  | <p><b>RESEARCH GRANTS</b></p>  |
|  | <p><b>International (As Project Leader)</b></p> <ol style="list-style-type: none"> <li><b>Kei Sei Ken Biotechnology Co. Ltd, Taiwan</b> (2013-2014). Microbial profiling and chemical characterization of breast milk from Malaysian women.</li> <li><b>National University of Singapore (NUS), Singapore</b> (Jan 2014-May 2014). To characterize the composite of human gut microbiota in Malaysia population with different ages using culture-independent molecular approach.</li> <li><b>Morinaga Milk Industry Co., Ltd, Japan</b> (2014-2017). Studies on the Effect of Oral Intake of Probiotic <i>Bifidobacterium</i> in the Prevention and Treatment of Morbidities among Children.</li> <li><b>Dairy Biotechnology and Engineering (DBTE), China</b> (2014-2017). Effects of <i>Lactobacillus casei</i> in the prevention of upper respiratory diseases among adults.</li> </ol>  |



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|  | <p><b>National (As Project Leader)</b></p> <ol style="list-style-type: none"> <li>1. <b>Loreal-UNESCO Research Grant</b> (2007-2008). Development and characterization of okara-based nanofibers via electrospinning</li> <li>2. <b>MOSTI-Science Fund Research Grant</b> (2007-2009). Effects of a synbiotic product on serum lipid profiles and morphology of red blood cells in human.</li> <li>3. <b>USM RU Research Grant</b> (2007-2010). Evaluation of the bioconversion of isoflavones by probiotics in soymilk and characterization of the fermented soymilk during storage.</li> <li>4. <b>USM RU Research Grant</b> (2009-2011). Effects of membrane permeability on cholesterol removal by lactobacilli and bifidobacteria.</li> <li>5. <b>USM RU Research Grant</b> (2009-2011). Production and characterization of electrospun nanofibers from agrowastes.</li> <li>6. <b>USM RU Research Grant</b> (2010-2013). Effects of physical treatments on the bioconversion of isoflavones on probiotic fermented soymilk.</li> <li>7. <b>MOHE-Fundamental Research Grant</b> (2011-2013). Understanding the mechanisms of dermal inhibitive and bioactive compounds from lactobacilli and bifidobacteria.</li> <li>8. <b>MOSTI-Science Fund Research Grant</b> (2012-2014). Effects of physical treatments on the production of dermal bioactives from lactobacilli and bifidobacteria.</li> <li>9. <b>USM RU Research Grant</b> (2013-2016). Development of bioactive films from lactic acid bacteria for dermal diseases.</li> <li>10. <b>USM Short Term Grant</b> (2007-2009). Development of a non-dairy trans fat-free cream cheese.</li> <li>11. <b>USM Short Term Grant</b> (2012-2014). Evaluation of a cholesterol reducing ability of <i>Lactobacillus gasseri</i> CHO220 via a genomic approach.</li> <li>12. <b>MOHE-Fundamental Research Grant</b> (2013-2016). Understanding the mechanisms for stress management via neurochemicals produced by LAB.</li> <li>13. <b>USM International Research Collaboration Fund</b> (2013-2016). Epicutaneous delivery of stress-reducing neurochemicals produced by LAB.</li> <li>14. <b>Penang Education Council Fund</b> (2014-2014). Beauty of Science: A view on Bioprocess Technology.</li> </ol> <p><b>National (as Co-researcher)</b></p> <ol style="list-style-type: none"> <li>1. <b>USM RUI Grant</b> (2007-2009). Elucidation of the action of proteolytic enzymes involved in Malaysian fish sauce production. Project leader: Pn Wan Nadiah Wan Abdullah.</li> <li>2. <b>USM RUI Grant</b> (2008-2011). Development of Fruit Flavored Probiotic Dadih. Project leader: Dr Ruzita Ahmad.</li> <li>3. <b>USM RUI Grant</b> (2011-2012). Development of <i>Cosmos caudatus</i> (ulam raja) Enriched Beef Burger. Project leader: Prof Azhar Mat Easa.</li> <li>4. <b>MOHE-Fundamental Research Grant</b> (2011-2013). Identification of fructophilic Lactic Acid Bacteria using genotypic techniques. Project leader: Prof Gulam Rusul.</li> <li>5. <b>USM RUI Grant</b> (2012-2015). Is Sago RS3 a Prebiotic? Project leader: Dr Rosma Ahmad.</li> <li>6. <b>USM RUT Grant</b> (2012-2015). Mechanistic interaction of Malaysian natural products onto dengue target drugs: towards discovery of potential active therapeutic agents for dengue. Project leader: Dr Hasnah Osman</li> <li>7. <b>MOHE-ERGS.</b> (2013-2016). Feasibility of salt-coating on noodles using amylose starch technology: Salt-release profiles, physicochemical and sensory evaluation. Project leader: Prof Azhar Mat Easa</li> </ol> |



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|  | <p>8. <b>MOHE-ERGS.</b> (2013-2016). Exploring the potential use of flour and oligosaccharides from ubi gadong (<i>Dioscorea hispida</i>) as functional food ingredients. Project Leader: Dr Rosma Ahmad</p> <p>9. <b>MOHE-FRGS.</b> (2014-2016). Development of probiotic-fermented-soy-based orally-dissolving strip for oral health. Project Leader: Dr Ewe Joo Ann, Taylors University</p>   |
|  | <p><b>PATENTS</b></p>  |
|  | <p><b>Filed</b></p> <ol style="list-style-type: none"> <li>1. Malaysia: Management of hypercholesterolemia by <i>Lactobacillus fermentum</i>. Filing number: PI 2015702828. Date of filing: 25/8/15</li> <li>2. Japan: A novel lactic acid bacterium and an agent for enhancing production of intracerebral gamma-aminobutylic acid. Filing number: P-151586. Date of filing: 28/1/2016</li> <li>3. Japan: An agent for suppressing deaths of nerve cells. Filing number: P-151587. Date of filing: 28/1/2016</li> <li>4. Malaysia: A wound healing-promoting protein, its encoding gene, and uses thereof. Filing number: PI2016702784. Date of filing: 29/7/16</li> <li>5. Taiwan: A novel lactic acid bacteria and its applications. Date of filing: 13/1/17. Filing number: 106101316</li> <li>6. PCT: A novel lactic acid bacteria and its applications. Date of filing: 13/1/17. Filing number: PCT/CN2017/071181</li> </ol> |
|  | <p><b>TEACHING AND SUPERVISION</b></p>   |
|  | <p><b>Undergraduate /Post-Graduate Teaching</b></p>  |
|  | <ol style="list-style-type: none"> <li>1. <b>IEK 101- Basic Chemical Calculations.</b> 2006 -2009</li> <li>2. <b>IMG 103- Food Chemistry.</b> 2006-2007</li> <li>3. <b>IUK 303- Industrial Waste Management.</b> 2007-2008</li> <li>4. <b>IBG 102- Biology for Technologists.</b> 2008 – current</li> <li>5. <b>IBK 211- Food Bioprocess Technology.</b> 2009- current</li> <li>6. <b>Quality Control and Food Processing.</b> 2007-2010</li> <li>7. <b>Food Biotechnology.</b> 2007-2010</li> <li>8. <b>Development of Nipah-based Products.</b> 2007</li> <li>9. <b>IBG 314- Downstream Process Technology.</b> 2010-2012</li> <li>10. <b>IBK 312- Issue in Bioprocess Technology.</b> 2012-current</li> <li>11. <b>Microbiology Examination Techniques of Sugar and Sugar Products Course.</b> 2011. Upskill Course (collaboration between USM-Malayan Sugar Manufacturing). 17-20 Oct 2011.</li> </ol>                         |
|  | <p><b>Graduate Supervision</b></p>   |



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#### **Graduated Ph.D Students (Full Research Mode)**

1. Yeo Siok Koon (2012). Growth characteristics and bioconversion of isoflavones in synbiotic-soymilk and evaluation of their bioactivities using physical treatments. **As Main Supervisor.**
2. Lye Huey Shi (2013). In-vitro cholesterol lowering mechanisms of selected *Lactobacillus* and *Bifidobacterium* species and effects of physical treatments. **As Main Supervisor.**
3. Ewe Joo Ann (2013). Growth properties and bioactivities of lactobacilli in soymilk supplemented with B-vitamins and upon physical treatments. **As Main Supervisor.**
4. Foo Wan Teck. 2013. Comparative assessment of gelatin and gellan in maize starch-egg white composite gel. **As Co- Supervisor.**
5. Fung Wai Yee. 2015. Electrospinning & Electrospaying: production of nanofibers and microparticles for nutraceutical/pharmaceutical applications. **As Co- Supervisor.**
6. Tan Pei Lei (2015). Production of bacteriocin SF by *Lactobacillus gasseri* SF for use in dermal bacterial infection and wound healing. **As Main Supervisor.**
7. Hassan Pyar. (2015). Screening of agro-wastes as growth substrate, quantification and antimicrobial activity of bioactive metabolites of *Lactobacillus* species. **As Co- Supervisor.**
8. Yong Cheng Chung (2016). Effects of extracts from *Lactobacillus plantarum* USM8613 against dermal *Staphylococcus aureus*. **As Main Supervisor.**
9. Wong Chyn Boon (2016). Development of *Lactobacillus plantarum* antibacterial proteins as bacteriocides against *Staphylococcus aureus*. **As Main Supervisor.**
10. Ong Jia Sin (2018). Neuroprotective effects of an EFTU protein produced by *Lactobacillus fermentum* PS150. **As Main Supervisor.**
11. Lew Lee Ching (2019). Cholesterol lowering and anti-aging of lactobacilli. **As Main Supervisor.**
12. Hor Yan Yan (2019). *Lactobacillus* strains in promoting healthy aging muscle and bone.. **As Main Supervisor.**

#### **Graduated Master Students (Full Research Mode)**

1. Teh Sue Siang (2010). Bioactivity of soymilk fermented by lactic acid bacteria immobilized on agrowastes. **As Main Supervisor.**
2. Ooi Lay Gaik (2010). The effects of a symbiotic product on the blood lipid profile and red blood cell morphology among hypercholesterolemic subjects. **As Main Supervisor.**
3. Lim Ting Jin (2010). Physical development and physicochemical characterization of soy-based cream cheese. **As Main Supervisor.**
4. Lew Lee Ching (2013). Production of dermal bioactives in selected lactobacilli and bifidobacteria, with special focus on sphingomyelinase activity optimization in *Lactobacillus rhamnosus* FTDC 8313 in the presence of Mn<sup>2+</sup> and Mg<sup>2+</sup>. **As Main Supervisor.**
5. Celestine Tham Sau Chan (2014). Survivability of MAC-coated alginate beads of lactobacilli and bifidobacteria in orange juice and mayonnaise. **As Main Supervisor.**
6. Amy Lau Sie Yik (2018). Effects of *Bifidobacterium longum* BB536 on upper respiratory illnesses and gut microbiota profiles in Malaysian pre-school children. **As Main Supervisor**
7. Mohamad Hafis Jaafar (2020). Effects of probiotics for constipation. **As Main Supervisor.**
8. Chong Hui Xian (2020). Development of probiotics for gut-brain axis. **As Main Supervisor**

#### **ACADEMIC RECOGNITION AND LEADERSHIP**



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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

| Awards & Recognition            |   |
|---------------------------------|---|
|                                 | <ol style="list-style-type: none"> <li>1. <b>PASCA Postgraduate Award</b> (2001-2003): Awarded for the postgraduate studies (Masters by Research) by University of Science Malaysia, Malaysia.</li> <li>2. <b>UNESCO Young Researcher Award</b> (2002): Awarded for the travel and presentation in the 8<sup>th</sup> International Pacific Rim Biotechnology Conference, November 2002, Auckland, New Zealand by UNESCO.</li> <li>3. <b>Croatian Science and Technology Travel Award</b> (2003): Awarded for the travel and presentation in the 3<sup>rd</sup> International Conference of Biotechnology and Food, February 2003, Zagreb, Croatia by the Croatian Science and Technology Ministry.</li> <li>4. <b>Academic Staff Training Fellowship</b> (2003-2006): Awarded for the postgraduate studies (PhD by Research) in Victoria University, Australia by Universiti Sains Malaysia, Malaysia.</li> <li>5. <b>SPI Polyols Travel Award</b> (2006): Awarded for the travel and presentation in the International Food Technologists Annual Conference, 24-28 June 2006, Orlando, USA by SPI Polyols Inc., USA.</li> <li>6. <b>Outstanding Final Year Research Student Award</b> (2006): Awarded by Victoria University, Melbourne, Australia.</li> <li>7. <b>Runner-up for the Malcolm Bird Award</b> (2006): Awarded by the Australian Institute of Food Science and Technology, Australia to outstanding young researchers.</li> <li>8. <b>National Award for Women In Science</b> (2007): Awarded by LOREAL-UNESCO for outstanding young women scientists in Malaysia.</li> <li>9. <b>InterAcademy Partnership (IAP) Young Scientist</b> (2015): Awarded by IAP, Trieste, Italy, as part of the World Science Forum Agenda, in Hungary (Nov 2015).</li> <li>10. <b>Top Research Scientists Malaysia (TRSM)</b> (2016): Awarded by Academy of Sciences Malaysia (ASM) for outstanding scientists in Malaysia</li> <li>11. Stanford University's List of World's <b>Top 2% Scientists</b> (2020). A total of 159,683 global scientists and 28 from Universiti Sains Malaysia.</li> </ol> |
| Adjunct Appointments/Fellowship |   |
|                                 | <ol style="list-style-type: none"> <li>1. <b>Adjunct Professor.</b> Sree Buddha College of Engineering, Kerala, India. Aug 2012- July 2015 (3 years)</li> <li>2. <b>Adjunct Professor</b> for University of Rajarata, Sri Lanka. Jan 2014 – Dec 2016 (3 years)</li> <li>3. <b>Council Member.</b> Enhancement of Science &amp; Technology Program, Penang Education Council. 1 Jan – 31 Dec 2014.</li> <li>4. <b>Secretary General. Young Scientist Network (YSN) - Academy of Sciences Malaysia (ASM);</b> National, Dec 2012- Dec 2015.</li> <li>5. <b>Vice Chair. Young Scientist Network (YSN) - Academy of Sciences Malaysia (ASM);</b> National, Dec 2015- Dec 2017.</li> <li>6. <b>Fellow at CAATS, USM,</b> Jan 2013-current</li> </ol>   |
| Editorial Board                 |   |
|                                 | <ol style="list-style-type: none"> <li>1. <b>Biopharmaceuticals.</b> International, non-indexed.</li> <li>2. <b>World Journal of Clinical Oncology.</b> International, Scopus database</li> <li>3. <b>Frontiers in Food Microbiology.</b> International, Scopus database</li> <li>4. <b>Journal of Biological Research.</b> International, Scopus database</li> <li>5. <b>Acta Alimentaria.</b> International, ISI., Impact factor: 0.444</li> <li>6. <b>Korean Journal for Food Science of Animal Resources.</b> International, ISI, Impact factor: 0.250</li> </ol>   |



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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

7. **Maejo Engineering & Agro Industry Journal.** International, Scopus database
8. **Tropical Life Science Research.** National, non-indexed.

**Invited Speaker**

**Keynote/Plenary Speaker:**

1. Liong, MT. 15 June 2011. Roles of probiotics and prebiotics in colonic cancer prevention: Mechanisms of action and in-vivo evidence. **International Scientific Conference on Probiotics and Prebiotics**, PAMIDA International Ltd. **Kosice, Slovakia. Keynote Lecture.**
2. Liong, MT. 23 Feb 2012. Probiotics, Cholesterol & Blood: The new love triangle. **International Conference on Recent Trends in Molecular Medicine.** Sree Buddha College of Engineering. **Kerala, India. Keynote Lecture.**
3. Liong, MT. 20 March 2012. Effects of probiotics on cholesterol levels. **Taste-Nutrition-Health International Congress**, Vitagora Taste-Health-Nutrition Network Innovation. **Dijon, France. Keynote Lecture.**
4. Liong, MT. 19 Nov 2012. Cholesterol lowering effects of probiotics. **International Conference & Exhibition on Probiotics**, Omics Group. **San Antonio, USA. Keynote Lecture**
5. Liong, MT. 14 Dec 2012. Roles of Probiotics: The Unconventional Benefits. **Taiwan Association for Lactic Acid Bacteria (TALAB) Annual Meeting, Taipei, Taiwan. Keynote Lecture**
6. Liong, MT. Probiotics in tackling hypercholesterolemia, dermal health and stress. 2nd International Conference & Exhibition on Probiotics & Functional Foods. **Orlando, USA. 23-25 October 2013. Keynote Lecture**
7. Liong, MT. Probiotics: A natural product for human health. International Seminar on Pharmaceutical Science and Technology. **Jatinangor, Indonesia. 18-19 September 2014. Plenary Lecture**
8. Liong, MT. Beneficial microorganisms: Food, agriculture and medical applications. 3<sup>rd</sup> Thailand-Malaysia Graduate Forum in Life Science, Food Science & Agriculture. **Bangkok, Thailand. 16-20 december 2014. Keynote Lecture**
9. Liong, MT. Probiotics: The Gut Brain Axis. 2015 International Meeting of the Microbiological Society of Korea. **Changwon, South Korea. 16 April 2015. Plenary Lecture.**
10. Liong, MT. Probiotics, health and the gut microbiota. 11th Malaysia Genetics Congress (MGC 11). **Kuala Lumpur, Malaysia. 12-13 Aug 2015. Plenary Lecture**
11. Liong, MT. Probiotics for Stress Management & Brain Health. International Conference on Food Factors (ICoFF) 2015. **Seoul, South Korea. 22-25 Nov 2015. Plenary Lecture.**
12. Liong, MT. Research Data: Beyond Numbers. The 5<sup>th</sup> Sarawak Biodiversity Center ROPM. **Kuching, Malaysia. 2 March 2017. Keynote Lecture**
13. Liong, MT. Novel & Emerging Probiotics for Healthcare. Asian Conference on Lactic Acid Bacteria (ACLAB9). **Gwangju, South Korea. 3-5 July 2017. Keynote Lecture.**
14. Liong, MT. **Upper respiratory track infections and immunomodulation by *Lactobacillus casei* Zhang.** International Meeting of Probiotics & Personalized Medicine. Kuching, Malaysia. **7-8 October 2017. Keynote Lecture.**
15. Liong, MT. **Probiotics for Healthier Aging & Brain.** International Meeting of Probiotics & Personalized Medicine. Kuching, Malaysia. **7-8 October 2017. Keynote Lecture.**
16. Liong, MT. Clinical Evaluations of Bifidobacteria. International Symposium on Bifidobacteria for Human Health - New Innovations of Bifidobacteria Research. **Tokyo, Japan. 28 Jan 2018. Plenary Lecture.**
17. Liong, MT. Probiotic, Health and Commercialization. 3rd ASEAN Microbial Biotechnology Conference 2018. **Kuching, Malaysia. 24-26 April 2018. Plenary Lecture.**
18. Liong, MT. *Lactobacillus casei* Zhang: Upper respiratory and gastrointestinal benefits. Chinese Gut Microbial Genome Activation and Probiotics and Health Symposium. Beijing, China. **31 March 2018. Keynote Lecture.**
19. Liong, MT. **Probiotics & Aging Science: From Gut & Beyond.** Gut Health Congress Asia 2018. Hong Kong. **17-18 Sept 2018. Keynote Lecture.**
20. Liong, MT. ***Lactobacillus plantarum* DR7 and the Brain: From Fruit Flies to Human.** International Scientific Conference on Probiotics, Prebiotics, Gut Microbiota and Health. **17-20 June 2019. Prague, Czech Republic. Keynote Lecture.**
21. Liong, MT. ***Lactobacillus* and the Aging Brain.** 10th Asian Conference on Lactic Acid Bacteria. **28-31 Aug 2019. Yogyakarta, Indonesia. Keynote Lecture.**



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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

22. Liong, MT. **Probiotic & Fermented Soy: Food Nanotechnology Perspectives.** The 17th International Fermented Food Expo (IFFE). **25-31 Oct 2019. Jeonju, South Korea. Keynote Lecture.**
23. Liong, MT. **Lactobacillus probiotic: A natural agent for the ageing brain and gut.** International Conference of Microbiota and Disease. **26 Dec 2020. Beijing, China. Keynote Lecture.**
24. Liong, MT. **Probiotic intervention for the aging brain.** 8th Beneficial Microbes Conference (BMC2021). **22-24 March 2021. Online, The Netherlands. Plenary Lecture.**
25. Liong, MT. **Probiotic: A next generation agent for healthier gut & brain.** International Conference on Beneficial Microbes 2021. **Online, Russia. Plenary Lecture.**

**Invited Speaker:**

1. Liong, MT. Cholesterol-reducing effects of a synbiotic containing *Lactobacillus acidophilus* and inulin in hypercholesterolemic subjects. **3rd International Conference on Drug Discovery & Therapy, Dubai, UAE, 7-10 February 2011.**
2. Liong, MT. From wastes to wealth: L'oreal FWIS made it possible. L'Oreal For Women in Science Award Press Launch. **Kuala Lumpur, Malaysia, 24 March 2011.**
3. Liong, MT. L'Oreal FWIS 2012 Award Ceremony. **Kuala Lumpur, Malaysia, 10 Nov 2011.**
4. Liong, MT. Probiotics and Cholesterol: Propensity, Mechanisms and New Scientific Justifications. **Handong Global University, Pohang, South Korea. 29 Nov 2011.**
5. Liong, MT. Probiotics: The Friendly Bug for Gut Health and Beyond. **Korea University, Seoul, South Korea. 1 Dec 2011.**
6. Liong, MT. Probiotics & cholesterol: mechanisms, clinical justifications and current trends. **Nestle Research Center. Lausanne, Switzerland. 21 March 2012.**
7. Liong, MT. Agrowastes as nanoencapsulant for *Lactobacillus*. **NanoThailand 2012. Khon Kaen, Thailand. 9-11 April 2012.**
8. Liong, MT. Probiotics & Health: Clinical Evidence & Current Prospects. **Chulalongkorn University Hospital, Bangkok, Thailand. 5 June 2012.**
9. Liong, MT. Bioactive extracts from lactic acid bacteria (LAB). **USM-RIKEN Joint Laboratory Mini-Symposium. INFORMM, USM, Penang. 16 April 2012.**
10. Liong, MT. Probiotics and Prebiotics: The new cholesterol-lowering alternative. **4th PENSMA (Parenteral and Enteral Nutrition Society of Malaysia) Congress. Penang, Malaysia. 16 June 2012.**
11. Liong, MT. Networking, Collaboration & MoA. "Can I Do Networking" Lecture Series organized by School of Distance Education. **USM, Penang. 28 Aug 2012.**
12. Liong, MT. Can Probiotics Alleviate Lipid Abnormalities? **INRA, Nantes, France. 7 Sept 2012.**
13. Liong, MT. Lipid Disorders and Probiotics. **Aarhus University, Denmark. 10 Sept 2012.**
14. Liong, MT. Probiotics and Cardiovascular: An Emphasis on Cholesterol. **3rd Better Foods for Better Health. Annecy, France. 14 Sept 2012.**
15. Liong, MT. Probiotics & Hypercholesterolemia: Trials, Challenges & Personalized Nutrition. **RIKEN-RCAI, Yokohama, Japan. 25 Sept 2012.**
16. Liong, MT. Roles of Probiotics: The Unconventional Benefits. **National Chung Hsing University, Taichung, Taiwan. 11 Dec 2012.**
17. Liong, MT. Benefits of Probiotics: Beyond Gut. **FIRDI, Hsinchu, Taiwan. 12 Dec 2012.**
18. Liong, MT. Benefits of Probiotics: Beyond Gut. **Grape King Bio., Chungli, Taiwan. 13 Dec 2012.**
19. Liong, MT. Lactic acid bacteria (LAB) as a potent functional food. **6th World Congress of Industrial Biotechnology (IBIO 2013). Nanjing, China. 26 April 2013.**
20. Liong, MT. Is breast milk "alive"? Mother's Day: Receive Your Gifts. **Penang, Malaysia. 12 May 2013.**
21. Liong, MT. Bioconversion potentials of LAB for food and health. **80th Annual Meeting of Korean Society of Food Science and Technology (KoSFoST). Cheonan, South Korea. 28-30 August 2013.**
22. Liong, MT. Probiotics & Health: Current Findings & Evidences. **Taylor's University Lecture Series 2013. Selangor, Malaysia. 18 September 2013.**
23. Liong, MT. Probiotics: Functionality Beyond Gut. **3rd International Symposium on Probiotics & Prebiotics. Jakarta, Indonesia. 30 September 2013.**
24. Liong, MT. New Health Claims of Probiotics. **RIKEN, Wako, Japan. 30 October 2013.**
25. Liong, MT. Probiotics, bile salt deconjugation & cholesterol: The Jekyll & Hyde Scenario. **2013 Dasan Conference: Probiotics & Health Claims. Jeju, South Korea. 4 November 2013.**
26. Liong, MT. **Enzymes from Probiotics: Cholesterol lowering effects without controversies?** BIT's 5th Symposium on Enzymes and Biocatalysis (SEB 2014). **Dalian, China. 25-28 April 2014.**



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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

27. Liong, MT. Probiotics in combating skin diseases. 7th Annual world congress of Industrial Biotechnology-2014 (IBIO-2014). **Dalian, China. 25-28 April 2014.**
28. Liong, MT. Probiotics & Cholesterol: Evidence, mechanisms & controversies. The Microbiome Forum: Asia. **Kuala Lumpur, Malaysia. 19-20 January 2015.**
29. Liong, MT. Probiotics for Stress Management & Brain Health. UTAR Interscience Scientific Symposium 2015. **Kampar, Malaysia. 21 March 2015.**
30. Liong, MT. Probiotics: The Gut Brain Axis. Dankook University Seminar. **Chonan, South Korea. 13 April 2015.**
31. Liong, MT. Probiotics: The Gut Brain Axis. Chonnam National University Seminar. **Gwangju, South Korea. 14 April 2015.**
32. Liong, MT. Probiotic: A new brain food. 8<sup>th</sup> Asian Conference on Lactic Acid Bacteria. **Bangkok, Thailand. 8-10 July 2015.**
33. Liong, MT. **Probiotics: Health Foods for New Health Applications.** The 2<sup>nd</sup> Asian fermented foods: Probiotic: potential ingredient for health products. **Bangkok, Thailand. 27-29 Aug 2015.**
34. Liong, MT. **Commercialization of research: Opportunities & Challenges.** The 4<sup>th</sup> Sarawak Biodiversity Center ROPM. **Kuching, Malaysia. 20-21 Jan 2016.**
35. Liong, MT. **Gut Microbiome & Health.** Malaysian Dietitians' Association Conference 2016. **Kuala Lumpur, Malaysia. 26-28 May 2016**
36. Liong, MT. **The quest of excellence.** CDAE USM 2016. **Penang, Malaysia. 25 July 2016**
37. Liong, MT. We own trillions of slaves, why need a maid? Universiti Sains Malaysia Thinkers' Talk. **Penang, Malaysia. 11 Aug 2016**
38. Liong, MT. **Probiotics & gut microbiota in ecological shifts.** 1<sup>st</sup> Northeast Asia Microecology Symposium 2016. **Shenyang, China. 2-3 Sept 2016**
39. Liong, MT. **Probiotics: A treasure from gut for gut & beyond.** Korean Society of Food Science and Nutrition International Symposium and Annual Meeting. **Jeju, Korea. 31 Oct – 2 Nov 2016**
40. Liong, MT. **Lactic acid bacteria in combating stress.** 5<sup>th</sup> Asian Federation of Societies for Lactic Acid Bacteria International Symposium 2016. **Taipei, Taiwan. 28-30 Nov 2016**
41. Liong, MT. **The quest for excellence.** CDAE USM 2017. **Penang, Malaysia. 24 Jan 2017**
42. Liong, MT. **The quest for excellence.** CDAE USM 2017. **Penang, Malaysia. 22 Aug 2017**
43. Liong, MT. **The quest for excellence.** CDAE USM 2017. **Kubang Kerian, Malaysia. 27 March 2017**
44. Liong, MT. **Probiotics for Healthier Aging.** URICAS Symposium. **Penang, Malaysia. 27 Feb 2017**
45. Liong, MT. **The quest for excellence.** School of Computer Sciences USM. **Penang, Malaysia. 16 March 2017**
46. Liong, MT. **Health Aspects of Probiotic Microorganisms.** MARDI Annual Seminar on Research. **Serdang, Malaysia. 20 March 2017**
47. Liong, MT. **Research and Commercialization Potentials.** MARDI Annual Seminar on Research. **Serdang, Malaysia. 20 March 2017**
48. Liong, MT. **Health Benefits of Probiotics.** 42<sup>nd</sup> Annual Conference of Malaysian Society for Biochemistry and Molecular Biology. Kuala Lumpur, Malaysia. **16-17 August 2017**
49. Liong, MT. **Probiotics in Promoting Brain Health.** 10th International Conference and Exhibition on Nutraceuticals and Functional Foods (ISNFF). Gunsan (Jeonbuk), Korea. **22-25 October 2017**
50. Liong, MT. **Lactic acid bacteria and healthy aging.** International Symposium & Annual Meeting for the Korean Society of Food Science & Nutrition. Gyeongju, Korea. **8-10 November 2017**
51. Liong, MT. **A novel anti-staphylococcal peptide by LAB with wound healing potential.** Taiwan Association of Lactic Acid Bacteria (TALAB) Annual Meeting. Taichung, Taiwan. **17 November 2017**
52. Liong, MT. Probiotics for Healthy Aging. USM-RIKEN Joint Laboratory Mini-Symposium. **Wako, Japan. 1-2 Feb 2018.**
53. Liong, MT. **Probiotics & Brain Health: The Gut-Brain-Axis.** 3<sup>rd</sup> Probiotics Congress Asia. Singapore. **5-8 March 2018**
54. Liong, MT. **Healthy Aging Probiotics: Evidence & Mechanisms.** Tianjin Science and Technology University Conference on Nutrition and Probiotics. **3-4 June 2019. Tianjin, China.**
55. Liong, MT. **Probiotics for Brain, Gut & Respiratory Health.** Derbycare Medical Technology Annual Meeting. **20 July 2019. Shanghai, China.**
56. Liong, MT. **New DR7 data: A probiotic for brain, respiratory and gut health.** Probiota Asia 2019. **23 Oct 2019. Singapore**
57. Liong, MT. **Lactobacillus for Healthier Aging.** The 2<sup>nd</sup> Dankook Convergence Science Global Symposium. **Jan 2020. Cheonan, Korea.**





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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

58. **Liong, MT. *Lactobacillus* for Healthier Aging.** 5<sup>th</sup> Probiotics and Prebiotics Congress Asia. **Oct 2020. Taipei, Taiwan**
59. **Liong, MT. Probiotic and the Aging Brain: Evidence and Mechanisms.** 2020 Korean Society of Food Science and Nutrition (KFN) International Conference. Oct 2020. **Jeju, Korea.**
60. **Liong, MT. Probiotics for Brain, Gut & Respiratory Health.** 2020 Fall International Convention of Pharmaceutical Society of Korea (PSK). Oct 2020. **Online, Seoul, Korea.**
61. **Liong, MT. Probiotics and Health Benefits.** Korea University Sejong Campus 2021 Seminar. March 2021. **Online, Sejong, Korea.**
62. **Liong, MT. Gut-Brain-Axis of Lactic Acid Bacteria.** International Symposium of The Korean Society for Microbiology and Biotechnology 2021. June 2021. **Online, Jeju, Korea.**
63. **Liong, MT. Gut & Brain: A View From the Perspectives of Gut Microbiota.** UiTM & IBRO-APRC Virtual Associate-School Program. August 2021. **Online, Selangor, Malaysia.**
64. **Liong, MT. Gut & Brain: A View From the Perspectives of Gut Microbiota.** FoodInnopolis @ Kasetsart: Cross-Border Technology Transfer. Sept 2021. **Online, Bangkok, Thailand.**
65. **Liong, MT. Probiotic: A Next Generation Agent for Healthier Gut & Brain.** Asian Conference of Lactic Acid Bacteria 11 (ACLAB11). Nov 2021. **Online, Tokyo, Japan.**

#### **Member in Professional / Academic Associations**

##### **Member**

1. **Institute of Food Technologists;** International, 2005-2010
2. **American Chemical Society;** International, 2009-2011
3. **American Dairy Science Association;** International, 2010-2012
4. **Young Scientist Network (YSN) - Academy of Sciences Malaysia (ASM);** National, Dec 2012- Dec 2015.

##### **Committee Member (Conference / Seminar / Workshop)**

1. Committee member for the **ISO 22000 Workshop.** 27<sup>th</sup>-29<sup>th</sup> March 2007, USM, Penang.
2. Committee member, Walk-In Interview Event, Alumni PPTI, USM. 28 March 2008.
3. Committee member for the **International Conference on Environmental Research and Technology (ICERT 08).** 28<sup>th</sup> – 30<sup>th</sup> May 2008, Penang, Malaysia.
4. Committee member for the **Accelerated Shelf life ASLT) Workshop.** 12<sup>th</sup>- 13<sup>th</sup> May 2009, USM, Penang
5. Committee member for the **2<sup>nd</sup> International Conference on Environmental Research and Technology (ICERT 10).** 2<sup>nd</sup> – 4<sup>th</sup> June 2010, Penang, Malaysia.
6. Committee member, e-Learn@USM seminar: Transforming, nurturing and learning, April 2010.
7. Committee member for the **4<sup>th</sup> USM-JIRCAS International Symposium..** 18<sup>th</sup> - 20<sup>th</sup> Jan 2011, Penang, Malaysia.
8. Committee member for the **One-Day Seminar eLearn@USM.** 4<sup>th</sup> July 2011, USM, Penang, Malaysia.
9. Committee member for the **3<sup>rd</sup> International Conference on Environmental Research and Technology (ICERT 12).** 30<sup>th</sup> May – 1<sup>st</sup> June 2012, Penang, Malaysia.
10. Committee member for the **International Conference & Exhibition on Probiotics.** 19-21 November 2012. San Antonio, USA.
11. Committee member for the **2<sup>nd</sup> International Conference & Exhibition on Probiotics & Functional Foods.** 23-25 October 2013. Orlando, USA.
12. Secretary, **YSN-ASM Strategic Workshop,** Port Dickson, Malaysia. 12-14 Dec 2013.
13. Secretary General. **Young Scientists Network (YSN) Malaysia.** 1 Jan 2014-31 Dec 2015.
14. Chairman. **International Conference on Beneficial Microbes 2014.** 27-29 May 2014. Penang, Malaysia
15. Scientific Committee. **7<sup>th</sup> International Conference on the Challenges in Environmental Sciences & Engineering,** 12-16 oct 2014. Johor Bahru, Malaysia.
16. International Advisor. **Advances in Bioprocess Technology (ICABT-2016),** 20-22 Jan 2016. Kerala, India.
17. International Advisor. **International Conference on Green Technologies for Sustainable Ecosystems.** 26-27 Feb 2016. Bengaluru, India.
18. Chairman. **International Conference on Beneficial Microbes 2016.** 31 May – 2 June 2016. Phuket, Thailand



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|  | 19. Committee member. <b>USM-International Women's College (USM-IWC) International Symposium.</b> 6 Dec 2016. Penang, Malaysia.<br>20. Chairman. <b>International Meeting on Probiotics &amp; Personalized Medicine.</b> 7-8 Oct 2017. Kuching, Malaysia.<br>21. Chairman. <b>International Conference on Beneficial Microbes 2018.</b> 30 July – 2 Aug 2018. Kuching, Malaysia. |
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**CONSULTANCY**

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|  | <b>Commercialization of Research Product</b> |
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|  | 1. <b>SynChol (A cholesterol lowering synbiotic).</b> Commercialized to a Malaysian company.<br>2. <b>KPI Online Monitoring System.</b> Commercialized to Malaysian higher learning institutions.<br>3. <b>Probiotics for brain health.</b> Commercialized to a Taiwan company.<br>4. <b>Probiotic for bone and muscle health.</b> Commercialized to a Malaysian company. |
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|  | <b>Consultation</b> |
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|--|--|
|  | 1. JIT Biotechnology Sdn Bhd. Development of probiotic foods. 2010-present (MoU signed on April 2010).<br>2. TT Biotechnologies Sdn Bhd. Isolation of probiotic cultures. Nov 2010.<br>3. Jajer Enterprise. Development of instant bird nest. Jan-June 2010.<br>4. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Processing and Quality Control. May- June 2010.<br>5. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Biotechnology. May-June 2010.<br>6. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Processing and Quality Control. May-June 2008.<br>7. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Biotechnology. May-June 2008.<br>8. Jurutera Perunding Fajar Sdn Bhd. Isolation and determination of probiotic cultures in milk. December 2007-January 2008.<br>9. Esona Technologies Sdn. Bhd. Isolation and determination of lactobacilli and bifidobacteria in powdered health supplements. February 2008-March 2008.<br>10. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Processing and Quality Control. 7th May - 5 th August 2007.<br>11. USM-TESEDEC Graduate Retooling Course for Graduate students. Food Biotechnology. 7th May - 5 th August 2007.<br>12. USM-MADA Food Processing Training Course. Product development of nira nipah. 23th – 25th October 2007.<br>13. Felda-Malayan Sugar Manufacturing (MSM). Microbiology Examination Techniques of Sugar and Sugar Products. 5th-8th Dec 2011.<br>14. Penang Tech Center Project. Penang Science Council. 2014 till current<br>15. STEM Advisor for Penang Tech Centre. Penang, Malaysia. 2016-current |
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**SERVICE TO THE UNIVERSITY AND COMMUNITY**

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|  | <b>University Administration</b> |
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**https://www.youtube.com/channel/UCo2W2QyXe6smal3PsheW9Zw/videos**

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|  |   |
|  | <b>1. Programme Chair (Bioprocess Technology).</b> 1 Jan 2013- 31 Dec 2015  |
|  | <b>University Committee</b>   |
|  | <ol style="list-style-type: none"> <li>1 <b>E-Learn representative for PPTI in USM.</b> July 2009-April 2011.</li> <li>2 <b>E-Learn representative for PPTI in USM.</b> May 2011- April 2013.</li> <li>3 <b>AJK The 4 pillars of the future-roadmap USM APEX rolling plan.</b> 2 Nov 2012 – current</li> <li>4 <b>USM Young Strategic Thinkers.</b> 2015-current</li> <li>5 <b>USM Scenario Planning.</b> 2015-current</li> <li>6 <b>USM Young Scholars.</b> 2015-current</li> </ol>  |
|  | <b>School Committee</b>   |
|  | <ol style="list-style-type: none"> <li>1 <b>Chairman- Multimedia PPTI.</b> November 2007- October 2009</li> <li>2 <b>Assistant Treasurer: Alumni PPTI.</b> May 2007-May 2009</li> <li>3 <b>Committee member: RU-Audit PPTI.</b> Nov 2007-now</li> <li>4 <b>Committee member: Postgraduate Activities PPTI.</b> Nov 2009-Dec 2010</li> <li>5 <b>Committee member: Task-Force PPTI.</b> 2009-current.</li> <li>6 <b>Committee member: Key Performance Index (KPI) PPTI.</b> Apr 2009- current</li> </ol>  |
|  | <b>National Membership/Committee</b>  |
|  | <ol style="list-style-type: none"> <li>1. <b>World Vision Malaysia.</b> 2006-current.</li> <li>2. <b>Young Scientists Network-Academy of Sciences Malaysia.</b> 2012-2020.</li> <li>3. <b>Penang Water Watch.</b> 2010-current.</li> <li>4. <b>Workshop Chairman, Penang International Science Fair,</b> 15-16 Nov 2014. SPICE-PISA, Penang.</li> <li>5. <b>Member, Penang TECH-DOME "MAGIC OF SCIENCE" ROADSHOWS.</b> 2014.</li> <li>6. <b>Member, YSN-ASM Colloquium 2014,</b> 5-7 Dec 2014, Port Dickson.</li> <li>7. <b>Coordinator, Probiotic in Chicken Farming Project, Balik Pulau,</b> Feb - May 2014.</li> <li>8. <b>Council Member. Enhancement of Science &amp; Technology Program, Penang Education Council.</b> 1 Jan 2014 till current.</li> </ol> |